

1979

Virginia Commonwealth University Medical College of Virginia Bulletin

Virginia Commonwealth University

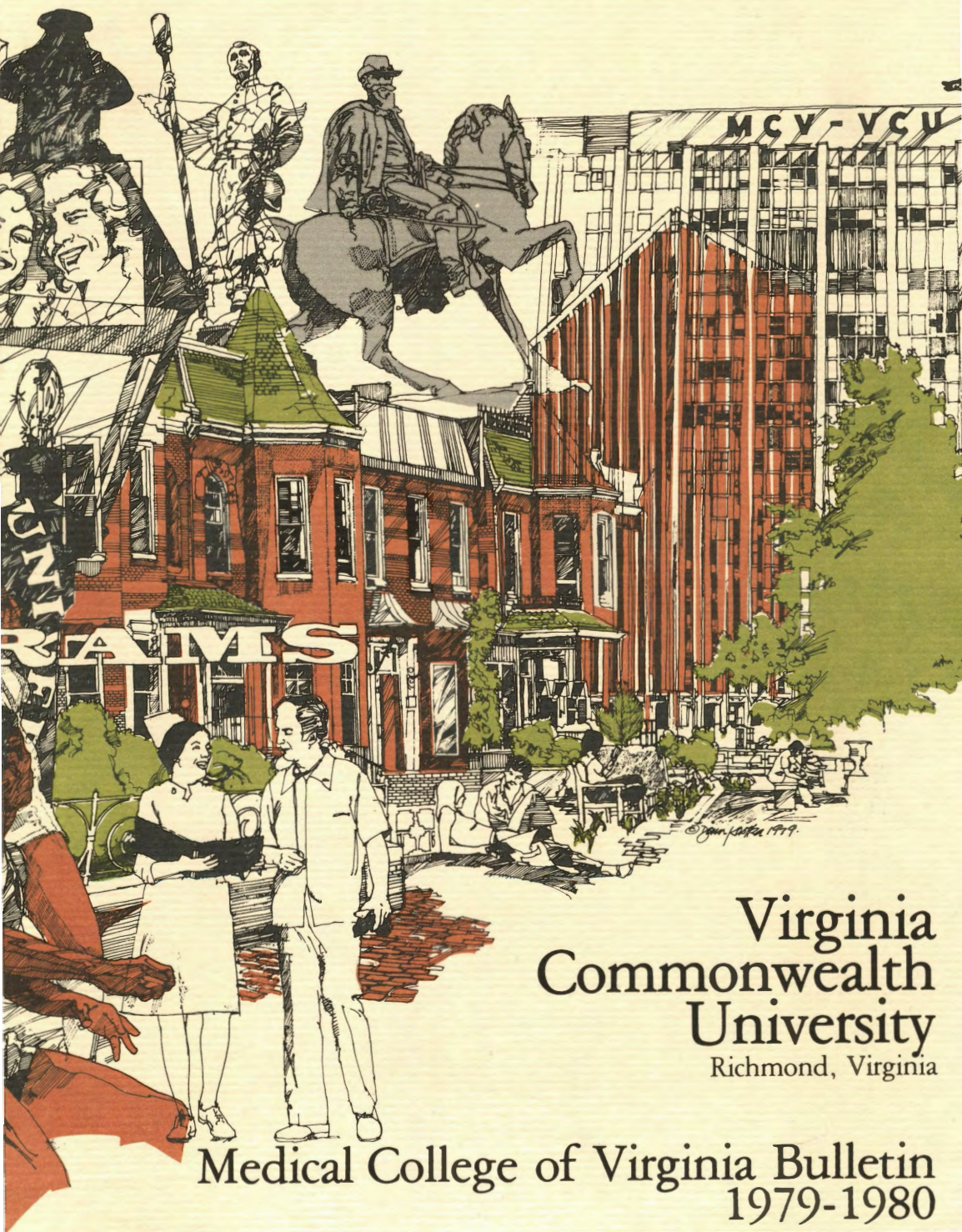
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Medical College of Virginia Bulletin
1979-1980

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The Board of Visitors, the administration, and the faculty of Virginia Commonwealth University are committed to a policy of equal opportunity in education without regard to race, creed, sex, national origin, age, or physical handicap.



**Virginia Commonwealth University
Medical College of Virginia Bulletin**

**Medical College of Virginia Campus
1979-80**

Volume LIV

August 1979

Number 2



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1979-1981 MCV Campus Calendar

FALL 1979

August

- 27-29 —Orientation and registration
- 30 —Classes begin at 8 am, MCV Campus

September

- 3 —Labor Day holiday
- 4 —Classes begin at 8 am, Academic Campus
- 28 —Last day for fall degree candidates to submit graduation applications to deans' offices for December degrees

October

- 26 —Last day to drop a course with a grade of "W"

November

- 21 —Thanksgiving holiday begins at 5 pm
- Last day to drop a course with a grade of "WP" or "WF"
- 26 —Thanksgiving holiday ends at 8 am

December

- 12 —Last day of classes for fall semester, Academic Campus
- 14 —Last day of classes for fall semester, MCV Campus
- 17-21 —Fall semester final examinations, MCV Campus
- 21 —Christmas vacation begins at 5 pm

SPRING 1980

January

- 11 —Orientation and registration for new students
- 14 —Classes begin at 8 am, MCV Campus and Academic Campus
- 25 —Last day for spring degree candidates to submit graduation applications to deans' offices for May degrees

March

- 7 —Last day to drop a course with a grade of "W"
- Spring vacation begins at 5 pm

17 —Spring vacation ends at 8 am

April

11 —Last day to drop a course with a grade of "WP" or "WF"
30 —Last day of classes for spring semester, Academic Campus

May

2 —Last day of classes for spring semester, MCV Campus
5-9 —Spring semester final examinations, MCV Campus
18 —Commencement

FALL 1980

August

25-27 —Orientation and registration
28 —Classes begin at 8 am, MCV Campus

September

1—Labor
Day holiday
2 —Classes begin at 8 am, Academic Campus

November

26 —Thanksgiving holiday begins at 5 pm, MCV Campus and Academic Campus
1 December —Thanksgiving holiday ends at 8 am
10 —Last day of classes for fall semester, Academic Campus
12 Last day of classes for fall semester, MCV Campus
15-19 —Fall semester final examinations, MCV Campus
19 —Christmas vacation begins at 5 pm

SPRING 1981

January

9 —Orientation and registration for new students
12 —Classes begin at 8 am, MCV Campus and Academic Campus

March

7 —Spring vacation begins at 1 pm
16 —Spring vacation ends at 8 am

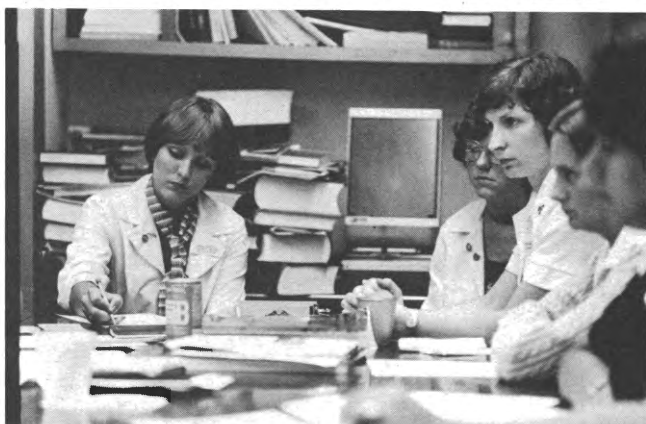
April

29 —Last day of classes for spring semester, Academic Campus

May

1 —Last day of classes for spring semester, MCV Campus
4-9 —Final examinations for spring semester, MCV Campus
16 —Commencement

Note: All of the above dates do not apply uniformly to all programs on the MCV Campus. Students will be advised of departures from this calendar by their respective deans or program directors and should follow schedules as provided by them. This calendar is subject to change.



PART I—General Information

HISTORY

The Medical College of Virginia of Virginia Commonwealth University was founded on December 1, 1837, when the president and trustees of Hampden-Sydney College created a medical department in Richmond. This medical department became the Medical College of Virginia (MCV), an independent institution, in 1854. In 1860, when the Commonwealth of Virginia appropriated \$30,000 for MCV's first hospital, Old Dominion Hospital, MCV became a state-supported institution.

The first outpatient clinic was established in 1867.

In 1893 a second medical college, the College of Physicians and Surgeons, was established just two blocks from the Egyptian Building, MCV's oldest building. In 1894 its name was changed to the University College of Medicine. This college and MCV were consolidated in 1913.

MCV today consists of the Schools of Allied Health Professions, Basic Sciences, Dentistry, Medicine, Nursing, and Pharmacy. In addition there are educational programs available in blood banking, EEG technology, cytotechnology, and a dietetic internship.

Recently organized units include the Center

for Community Health and the MCV/VCU Cancer Center.

On July 1, 1968 the Medical College of Virginia became the Health Sciences Division of Virginia Commonwealth University which was created by the General Assembly of Virginia during its 1968 session.

The other component of Virginia Commonwealth University, known as the Academic Campus, was the former Richmond Professional Institute (RPI). RPI began in September 1917 as the Richmond School of Social Work and Public Health under the leadership of Dr. Henry H. Hibbs.

The Academic Campus has grown until today it encompasses the Schools of the Arts, Arts and Sciences, Business, Community Services, Education, and Social Work.

The total university enrollment is over 19,000 with more than 2,900 students, interns, and residents receiving medical education on the MCV Campus. Presently the MCV Hospitals are authorized to maintain a bed complement of approximately 1,050.

VCU ranks as a comprehensive doctoral granting institution, one of only three Virginia schools to achieve this rank.

MISSION OF THE UNIVERSITY

Virginia Commonwealth University is a comprehensive, urban, public university

whose mission is to provide a fertile and stimulating environment for teaching, learning, research, and service; to promote the pursuit of knowledge; and to disseminate professional skills. Characteristic of comprehensive universities, its thrust is toward the education of citizens who need the solid values and proven strengths of the past as well as knowledge of future alternatives in dealing with society's increasingly urban-influenced problems, wherever these problems may exist.

The university's mission includes the provision of:

A scholarly climate which will inspire in the student a lifelong commitment to learning and service; which will develop in the student competence and motivation to work toward the realization of individual and community potentials; and which will set for the student an example of excellence.

An environment of educational excellence which values diversity and enables faculty to pursue their work in accordance with the highest standards and to serve as exemplary role models.

Educational services for the adjacent urban community through flexible scheduling and for adults and professionals in adjacent regions through continuing education programs.

Educational experiences away from the metropolis for selected programs so that graduates are prepared to serve the Commonwealth in diverse locales.

Research and educational activities in all disciplines to develop and communicate new knowledge, to improve the quality of life, and to promote the best use and general understanding of human and environmental resources.

The recognition of the imaginative power of the arts and humanities in reflecting the problems and aspirations of society; and the providing of opportunities to emphasize the value of the arts and humanities for oneself and for society through public exhibitions and performances.

Comprehensive health care services which meet patient and community needs and which provide an optimal environment both for education and training of health care professionals and for innovative studies on improving health care delivery.

The establishment of the university as a planning and resource center which, drawing upon the unique resources of a major urban area, is devoted to the solution of problems confronting Virginia's communities; to the identification of emerging social needs; and to the planning required for orderly future growth and development.

MCV CAMPUS MISSION

The Medical College of Virginia Campus is an integral part of Virginia Commonwealth University, a comprehensive urban based public institution of higher education. The six academic schools and teaching hospitals of the Medical College of Virginia Campus exist primarily to serve the needs of the citizens of the Commonwealth of Virginia for:

- Transmittal of knowledge related to the health sciences
- Continuity in the supply of health manpower
- Accessibility to comprehensive and quality health care services
- Development and dissemination of new knowledge for the advancement of the health sciences.

Cognizant of the societal nature of these needs and its public trust, the Medical College of Virginia Campus is committed to serving these needs in the most effective and efficient manner possible.

Education

The Medical College of Virginia Campus is committed to educational programs directed toward providing graduates capable of meeting the commonwealth's health needs. Programs are dedicated to maintaining and updating competency of health professionals as well as preparing graduates to enter the health professions. Educational programs are supported by several academic disciplines, the teaching hospital, carefully selected off-campus health facilities, and an institutional commitment to effective teaching.

Service

The Medical College of Virginia Campus is committed to a comprehensive program of patient care: to demonstrate excellence in practice as a model for students; to provide a base for study designed to improve patient

care; to meet needs of patients in its hospital's service area; and, to offer highly specialized services in clinical areas of demonstrated expertise.

Research

The Medical College of Virginia Campus is committed to research programs: to develop new knowledge from studies ranging from the molecular level through clinical procedures to health care delivery and outcomes; to model for students a spirit of inquiry and the application of the scientific process to patient care; and to focus interdisciplinary effort on problems amenable to the scientific approach.

ACCREDITATION

Virginia Commonwealth University is a member of and is accredited by the Southern Association of Colleges and Schools, the general accrediting agency for colleges in the region. All schools and courses at MCV/VCU are accredited by the agencies and organizations appropriate to the school or course concerned.

EDUCATIONAL PLANNING AND DEVELOPMENT PROGRAM

The MCV Educational Planning and Development Program (EPDP) assists educational units within MCV to define and accomplish their goals. Activities undertaken within the scope of this mission are quite varied.

A series of annual workshops is offered to faculty in areas of general concern. Workshop topics have included: Course Design, Test Construction, Clinical Teaching, Simulations, etc. Individual consultation is provided to faculty as requested on topics as diverse as identifying and strengthening personal teaching styles to publication outlets for educational studies. On request, EPDP staff work with other faculty in curriculum and course planning.

Several activities relate to evaluation. Included here are the development and monitoring of a test analysis system, evaluation of specific educational programs, and working with departmental faculty on better ways to evaluate interns and residents.

EPDP is also supportive of new projects and collaborates with other units in the preparation of extramural proposals which involve innovative educational approaches.

Much of EPDP's work is done in collaboration with faculty from the several MCV schools. In addition, resource sharing with the Department of Visual Education on the MCV Campus and the Center for Improving Teaching Effectiveness (CITE) on the Academic Campus is frequent.

Eight faculty have their primary appointments within EPDP. In addition, six others whose primary appointments are in other academic units, have joint appointments with EPDP.

CENTER FOR COMMUNITY HEALTH

The MCV/VCU Center for Community Health was established in recognition of the national and local concerns regarding the health status of the nation's population and the current barriers to the prevention of illness and the maintenance of good personal health. The center is primarily concerned with education, service, and research. The educational program develops and stimulates an awareness of the impact of social and other welfare problems on health and prepares students for participation with other health related professionals in interdisciplinary health services.

Service activities are provided to individuals in their homes through interdisciplinary teams of students working in collaboration with health or social service agencies in the community. The focus is on an holistic approach to patient problems through the 'team' approach to patient care and on the interplay between health and other social factors.

The Center for Community Health, in conjunction with the School of Medicine, is currently in the process of developing a Primary Care Center which will provide comprehensive programs of ambulatory services to families.

The third function of the center is research in health services delivery and community health problems. Such research is designed to assist in constructing and testing alternative models in health services delivery.

The center participates with the School of Medicine and the School of Nursing in a program for the training of nurse practitioners who perform some functions normally done by family doctors, pediatricians, and obstetricians, e.g., physical examinations, well baby care, patient education, long term manage-

10 General Information

ment of chronic disorders, and management of some acute and emergency conditions. The Nurse Practitioner Programs are designed to help meet the current deficit in primary care services which have been documented for both Virginia and the nation.

The administrative office of the center is located on the first floor of Sanger Hall.

MCV/VCU CANCER CENTER

The MCV/VCU Cancer Center, established as a clearly defined administrative entity in 1974, is the result of vigorous planning by MCV/VCU faculty and administration. In fulfilling its mission, the Cancer Center coordinates the efforts of all departments and schools in oncology-related activities. Presently, the center involves faculty members from all MCV/VCU schools in programs of cancer cell biology, tumor immunology, pharmacology of anticancer drugs, carcinogenesis, clinical cancer research, cancer training and education, clinical cancer services and rehabilitation, detection and screening, and community interaction.

One objective of the center is the integration of basic and clinical oncology research with clinical cancer care to allow a rapid translation of new laboratory findings into improved care for the cancer patient. A second objective of the center is to become an effective demonstration center capable of offering multidisciplinary consultation services, educational programs, and specialized methods for diagnosis in the treatment of cancer, which are not generally available in the area. Another objective is to coordinate and enhance the oncology educational programs at the university.

In addition, the center develops strong community programs involving active participation by the public and practicing health professionals in the region.

To date, 41 faculty hold joint appointments with the center. Additional information may be obtained by writing the MCV/VCU Cancer Center, Box 37, MCV Station, Virginia Commonwealth University, Richmond, VA 23298, (804) 786-0448.

DIVISION OF CONTINUING STUDIES AND PUBLIC SERVICE

One of the major purposes of Virginia Commonwealth University is to provide continu-

ing education opportunities for citizens throughout the Commonwealth. Through the Division of Continuing Studies and Public Service, the university provides a variety of credit courses during the evening and off campus, all of which are degree-applicable. In addition, numerous CEU or noncredit courses, workshops, institutes, and seminars ranging from cultural enrichment programs to specific professional topics are made available both on- and off-campus.

Through the evening and off-campus credit offerings, the university provides opportunities for many adults who, because of job or other responsibilities, would otherwise be unable to pursue courses of study in higher education. In order to extend its educational program to an even broader population, the university offers a Bachelor of General Studies degree, a new nontraditional university program administered by the Division of Continuing Studies and Public Service.

A contractual agreement permits the university to maintain a Center for Continuing Education in the Holiday Inn/Downtown. Located at 301 West Franklin Street, it is about midway between the two VCU campuses. The center coordinates the availability and use of guest rooms, dining facilities, and conference space for participants in short programs offered by the various schools and departments in the university.

Many of the offerings of the Division of Continuing Studies and Public Service are announced via supplements to the daily newspapers. In addition, catalogs of non-credit public service courses are widely distributed throughout the community and by direct mailings. Special courses and programs directed toward specific professional groups may be announced in appropriate journals and by direct mailings.

Further information may be obtained by writing to: Virginia Commonwealth University, Division of Continuing Studies and Public Service, 301 West Franklin Street, Richmond, VA 23220, (804) 786-0342.

LIBRARIES AND THEIR RESOURCES

The Virginia Commonwealth University Libraries consist of the James Branch Cabell Library on the Academic Campus and the Tompkins-McCaw Library on the MCV Cam-

pus. Both libraries have expanded space and services through major construction projects and provide a combined capacity for 1,360,000 volumes and seating for over 2,450. The university libraries are partial depositories for United States government documents.

The Tompkins-McCaw Library, with a strong collection in health sciences, is a graduate research library serving the MCV Campus. The James Branch Cabell Library, a general undergraduate library, serves the Academic Campus. Both libraries are available to all members of the university community. Services offered to students, faculty, and staff in the Tompkins-McCaw Library include: computer-based bibliographic searching, photo-copying service, interlibrary loan, and reference assistance on request. A brochure describing these and other services is available in the library.

DEPARTMENT OF VISUAL EDUCATION

The Department of Visual Education is responsible for providing support services for teaching, patient care, and research. The department maintains and operates a central photographic facility, a central art and graphics production facility, the Learning Resource Centers in Sanger Hall and the Lyons Dental Building, and is responsible for classroom support services and student projectionists.

In addition to its technical support facilities, the department offers professional consultation services to the faculty in the planning and execution of teaching exercises.

SUPPORT SERVICES

Division of Animal Resources

Animal care and procurement are supervised by a veterinarian who serves as the director of the Division of Animal Resources. These facilities are inspected and approved by the American Association for Laboratory Animal Care which certifies that care and treatment meet the most rigid standards. They are also regularly inspected by veterinarians from the U.S. Department of Agriculture.

Housing for small animals is available in quarters conveniently located near departments and at a large central holding area in Sanger Hall. There is also a 90 acre farm in Hanover County for large animals and for

holding animals for long-term experiments or conditioning. A large laboratory, animal building, two barns, and a caretaker's cottage are located on this facility.

Central Biomedical Instrumentation Facility

Well-equipped mechanical and electronic shops for the construction and repair of mechanical and electronic instrumentation are located in Sanger Hall.

Biomedical Instrumentation Laboratory

Certain large and expensive equipment, which because of size and cost necessitate interdepartmental use, is available to all departments. Some of the instruments presently available include: scintillation counters, gamma counters, electron microscopes, rapid kinetics spectrophotometer, atomic absorption-emission spectrophotometer, and electron spin resonance equipment, gas chromatograph-mass spectrometer, nuclear magnetic resonance spectrometer, laser beam cell sorter, high pressure liquid chromatograph, integrated amino acid analyzer, and a densitometric photomicroscope.

The University Computer Center

The University Computer Center provides computing support for the instruction, research, and public service functions on both campuses of the university. The central office and major equipment of the center are located on the Academic Campus in the School of Business building. Two branch facilities are maintained on the MCV Campus. The central equipment includes two computers, an IBM 370-158 and an IBM/370-148 with over a million bytes of storage. Remote job entry terminals and typewriter terminals are located on both campuses to provide convenient access to students, faculty, and staff.

The Data Acquisition Facility

The Data Acquisition Facility provides a special purpose computer on floor B-3 of Sanger Hall to provide real-time data acquisition services from laboratories and clinical research areas on the MCV campus. The overall goal of the facility is to enhance the scope of educational and research programs at MCV by the appropriate use of real-time and/or direct data analysis systems.

Facilities—Academic

Sanger Hall is located on East Marshall Street between Eleventh and Twelfth Streets and with the recent completion of a new addition extends along Eleventh Street to Broad Street. Named in honor of Dr. William T. Sanger, third president of MCV, Sanger Hall houses the administrative offices of MCV/VCU, the teaching headquarters for the clinical medical faculty, and the basic science departments and research laboratories.

The **Nursing Education Building**, originally a dormitory for nurses, provides administrative offices and classrooms for the Schools of Nursing and Allied Health Professions.

Randolph-Minor Annex is a former church building which provides teaching facilities for the Departments of Health Administration and Medical Technology.

The **Egyptian Building**, designed by Thomas Stewart of Philadelphia, was the first building owned by MCV/VCU. Completed in 1845, it is considered one of the purest types of Egyptian architecture in the United States. Offices, laboratories, and the Baruch Auditorium (with a seating capacity of about 300) are housed in this building located at the corner of College and East Marshall Streets.

McGuire Hall and **McGuire Annex** are named for Dr. Hunter Holmes McGuire, founder of the University College of Medicine which consolidated with MCV in 1913.

Located on the north side of Clay Street between Eleventh and Twelfth Streets, these adjoining buildings primarily serve the School of Pharmacy and the Department of Pharmacology. A greenhouse is on the roof of McGuire Hall.

The MCV branch of the **VCU Bookstore** is located in the basement of McGuire Hall.

The **Wood Memorial Building** and the **Lyons Building**, named in honor of Dr. and Mrs. Jud B. Wood and Dr. Harry Lyons, dean of the School of Dentistry from 1951 until 1970, house the School of Dentistry. These adjoining buildings are located on Eleventh and Twelfth Streets respectively, just north of McGuire Hall.

The **Dooley Building**, opened as a pediatric hospital, has been converted to house research laboratories.

The **Lewis L. Strauss Surgical Research Laboratory** accommodates a number of im-

portant research projects and the administrative offices of the MCV/VCU Cancer Center. It is located next to the Tompkins-McCaw Library on North Twelfth Street.

The **VMI Building** is located at the corner of Tenth and Marshall Streets and houses a variety of activities and programs. Among these are the offices and laboratories of the Department of Occupational Therapy of the School of Allied Health Professions, MCVH Social Work offices, MCVH Quality Assurance Program, MCV Campus Parking office, and certain offices of the MCV Campus Physical Plant Department. The campus post office is scheduled to be relocated to this building in 1979.

The four **Residence Halls**, located at Tenth and Leigh Streets, provide offices for student life and student services personnel in addition to living quarters for students. They are named **Warner Hall**, **Bear Hall**, **Rudd Hall**, and **McRae Hall**.

Cabaniss Hall is a 432-bed dormitory located southwest of the Jonah L. Larrick Student Center.

The **Jonah L. Larrick Student Center** is named for the former director of YMCA activities at MCV. On the first floor are the cafeteria and a smaller dining room for special events. The second floor houses a large lounge and exhibit area with smaller rooms for TV viewing, music listening, piano playing, games and activities, offices, and meetings.

Adjacent to the student center is the **MCV Gymnasium** with extensive facilities for intramurals, recreation, and physical fitness.

The old **Student Union Building**, a former church, houses the MCV branch of the U.S. Post Office, the Campus Room Restaurant, and Employee Health Service.

Monumental Church, erected in 1812 on the site of the theatre building that burned on the night of December 26, 1811, claiming the lives of 72 people, was deeded by its congregation to the MCV Foundation in 1965 "as a chapel or religious center for persons of all creeds, denominations, or faiths, and for the other purposes of the College." A major part of the restoration of the church to conform to the original design of the architect Robert Mills has been completed.

In addition to the major buildings, a number of smaller structures house various departments of the institution.

MEDICAL COLLEGE OF VIRGINIA HOSPITALS

Patient care functions are carried out in eight buildings on the MCV Campus. Five of these, **West, North, East, and South Hospitals** and the **Nelson Clinic** provide about 1,050 inpatient beds together with the usual ancillary patient services. Nelson Clinic also has offices for faculty private practices.

The **A.D. Williams Clinic** provides for about 100 general and subspecialty clinics in which about 225,000 patient visits per year take place. Several outpatient clinics are located in **Randolph-Minor Hall** which also provides on-call rooms for housestaff personnel and offices for a number of hospital administrative services. An additional outpatient clinic facility is the **Hearing and Eye Clinic Building**.

Inpatient admissions number about 31,000 per year and emergency room visits about 70,000 per year. The patient care operations in the hospitals and clinics provide the major clinical resources for the teaching programs of the MCV Campus schools. In order to provide diverse and additional clinical experience to students, MCV maintains an affiliation with the **Veteran's Administration Hospital** in Richmond and with several other hospitals in the Richmond area and throughout the state.

A new hospital building which will provide 538 new replacement beds is now under construction and is scheduled for completion in the spring of 1981. When this new building is completed, use of the older East and South Hospital buildings for patient care will be discontinued. The remaining hospital buildings are scheduled for extensive renovation when the new hospital becomes available. This extensive facilities development program is being financed through a revenue bond issue and when completed will provide essentially entirely new and modern outpatient and inpatient facilities for comprehensive patient care.

Endowment, Resources, Support, and Research

Although Virginia Commonwealth University is a state-supported institution, it is indebted to many friends for generous gifts and bequests that are vital to the successful performance of its mission in education, service, and research.

While Virginia Commonwealth University is one of the leaders in teaching among the institutions of higher education in the state, it is also an institution which commits a significant portion of its resources to research and scholarly activities. VCU is fully committed to the proposition that a broad-based program of research investigations enhances the teaching mission of the university while, at the same time, it improves the quality of services provided to the community. During the fiscal year ending on June 30, 1978, the university received over \$19 million, of which over \$16 million was received on the MCV Campus, in sponsored program support from a variety of federal agencies and private organizations. The extensive and diverse nature of the university's research programs are directly related to the excellence of the faculty on both campuses.

MCV FOUNDATION

The Medical College of Virginia Foundation was incorporated under the sponsorship of the Board of Visitors of the Medical College of Virginia in 1949 as a non-profit, non-stock Virginia corporation.

The purposes of the foundation are to "aid, strengthen, and extend in every proper and useful manner the work, services, and objectives of the Medical College of Virginia, Health Sciences Division of Virginia Commonwealth University." Its affairs are managed by a Board of Trustees which has responsibility for the investment as well as the distribution and expenditure of the funds entrusted to it.

The Articles of Incorporation require that there be at least one trustee from the faculty, one from the Board of Visitors, and three from the alumni of the Medical College of Virginia, and that the chief administrative officer of the Medical College of Virginia of Virginia Commonwealth University be a trustee ex officio.

The foundation, which maintains an office in Sanger Hall, works closely with the university administration in the interest of and the discharge of its purposes as set forth above. It is equipped to receive gifts, grants, contributions, and bequests to be used in support of foundation objectives.

For the year 1977-78, the trustees provided \$499,000 from unrestricted, designated, and

endowment income for support of various programs.

A.D. WILLIAMS FUNDS

The estate of A. D. Williams, left in trust, provides an appreciable income each year to MCV. These funds are used in support of student scholarships, predoctoral fellowships (graduate students), summer student fellowships, postdoctoral awards to visiting distinguished scholars or academic fellows anticipating joining the faculty, and faculty stipends to MCV faculty members advancing their training. A portion of these funds is also used for grants to new faculty members joining MCV to aid in establishing their research. Funds made available from this trust are administered by a committee appointed by the associate provost. Use of some of these funds is based upon the recommendations of the Institutional Research Advisory Committee.

A.D. WILLIAMS AWARD

An annual stipend may be made, on the nomination of the faculty, to a student in each class of the degree programs who demonstrates by virtue of high scholastic attainment and professional performance, unusual promise and ability.

ENDOWED PROFESSORSHIPS

Endowed professorships have been established in honor of these individuals who have played vital roles in the development of the Medical College of Virginia:

Arthur Graham Glasgow Professorship of Hospital Administration. This professorship was established in 1957 in honor of Doctor Glasgow, who provided so generously in his will for MCV, and who had shown such a vital interest in hospitals;

Stuart McGuire Professorship of Surgery. This professorship was established in 1959 in honor of Dr. Stuart McGuire, who was president of the University College of Medicine when it was consolidated with the Medical College of Virginia in 1913, and who was successively professor of surgery, dean, president, and chairman of the Board of Visitors of the combined institutions. Doctor McGuire died in 1948. His wife, Mrs. Ruth Robertson McGuire, died in 1963. The bulk of their estates was bequeathed to MCV to be used for the Department of Surgery;

William Branch Porter Professorship of Medicine. This professorship was established in 1959 in honor of Doctor Porter, who was chairman of the Department of Medicine from 1927 to 1956 when illness forced his retirement. He died October 6, 1960, leaving his entire estate in trust for the MCV Foundation for use of the Department of Medicine;

Harvey B. and Gladys V. Haag Professorship of Pharmacology. Established in 1963, this professorship honors Dr. Harvey Bernhardt Haag and his wife, Mrs. Gladys Vaden Haag. Doctor Haag, who died in 1961, joined the college faculty in 1923 and was promoted to professor and chairman of the Department of Pharmacology in 1933. He also served as dean of the School of Medicine from 1947 to 1951. At Mrs. Haag's death, in 1962, the bulk of their joint estate came to the MCV Foundation for support of the department of pharmacology;

Norborne F. Muir Chair of Orthodontics. Established in 1974, this chair honors Dr. Norborne F. Muir who in his will generously provided a bequest to the MCV Foundation to establish a Chair of Orthodontics in the School of Dentistry. Dr. Muir, who died in 1974, graduated from the School of Dentistry of the Medical College of Virginia in 1918 and practiced dentistry all of his professional life in Roanoke, Virginia.

HONOR SOCIETIES

Students who excel in scholarship and leadership may be eligible for membership in honor societies related to their fields of study. In addition, students who meet established criteria may be elected to one or more of the following societies:

Phi Kappa Phi is a national honor society which recognizes and encourages superior scholarship. It accepts members from applied and professional fields of study, as well as from letters, arts, science, and humanities. The VCU Chapter was installed in 1977.

Sigma Xi Society is a national honor society founded for the encouragement of research in science and recognizes individuals for research achievement or promise.

Alpha Sigma Chi is an MCV campus organization which was founded in 1938. It recognizes those individuals who excel in leadership and service to colleagues, school, and the university.

Sigma Zeta is an honorary science fraternity which encourages and fosters knowledge of the sciences and recognizes attainment of high scholarship in the sciences. Gamma Chapter was installed at MCV in 1926.

Student Life and Services

HOUSING FACILITIES

Dormitories with a capacity for 780 students are located in the northwest corner of the MCV campus.

Rooms are furnished with beds, mattresses, study desks, chairs, and either chests-of-drawers or bureaus. Janitorial service is provided. The residence hall staff personally supervises all students.

The Jarrett Apartments, located at Laburnum Avenue and Nine Mile Road in eastern Henrico County, are for married students and housestaff.

Requests for information and applications for apartment rentals should be addressed to: Coordinator of University Housing, Virginia Commonwealth University, MCV Station, Box 265, Richmond, Virginia 23298.

Students and members of the housestaff may get assistance from the Housing Office in locating satisfactory accommodations off campus.

Housing information and applications will be sent by the Housing Office to all students as they are accepted for admission to MCV/VCU. Requests for additional housing information should be made to: Coordinator of University Housing, Virginia Commonwealth University, MCV Station, Box 265, Richmond, Virginia 23298.

Dormitory room assignments are made for the period of an academic year which normally is two semesters.

When students are required to remain beyond the usual year, rentals will be charged on a prorated monthly basis. Reservations are made in advance for the full period or for such part of the period as may be approved specifically by the Housing Office.

A current rate schedule is available upon request from the Housing Office. Rent is payable in advance by the semester and refunds will be made only in accordance with the university policy as stated in the university catalog and housing contract.

STUDENT CENTER

The Jonah L. Larrick Student Center is a unique circular building consisting of two levels:

Lower Level—Dining Facilities: A cafeteria provides food on a contractual basis for students living in the dormitories and for off-campus students who elect to be on the meal plan. This contract will provide three meals each day, including Sundays, that the MCV Campus is officially open as shown by the calendar in the *Bulletin*. Students remaining after holidays and vacations begin, or who begin classes before the official dates shown, are able to purchase meals in one of the campus food facilities on an *a la carte* basis. A current contract price schedule is available upon request from the Office of the Comptroller or the Housing Office. This cafeteria is used on a limited basis also by faculty and staff when it does not conflict with the student schedule.

There is a small private dining room which may be reserved for private luncheons and dinner meetings. Arrangements to use this room, as well as for catering for social functions, are made through the manager of food services.

Upper Level—Activities Area: A variety of activities and cultural and social opportunities are offered to students through the Larrick Student Center. A large lounge in the center is surrounded by smaller rooms. The lounge area accommodates up to 570 people for dances, social mixers, lectures, etc. The walls are lighted and equipped for hanging art exhibits. The smaller rooms include offices of the student activities director, the MCV Student Government and Honor Council, the X-Ray (MCV yearbook), and two conference rooms which accommodate up to 50 people.

There are rooms for pool, table tennis, as well as cards, chess, piano playing, and record listening. One of the music rooms is equipped with a Scott stereo-radio-phonograph system, and another is equipped with earphones and has a selection of six channels: (1) phonograph, (2) AM/FM radio, (3,4,5) three eight-track tape decks, and (6) TV audio. Classical records are available in the office. AM/FM radio music is supplied to both levels.

The Student Center Advisory Board, comprised of students, faculty, and administration

recommends policies, procedures, and programs for the Larrick Student Center and helps to identify student interests and needs.

Reservations for use of the activities area should be made through the office of the Larrick Student Center manager.

HEALTH SERVICES

MCV/VCU offers a comprehensive program of prepaid medical care through the Student Health Service and a supplemental accident and sickness hospitalization insurance plan. Descriptive brochures are sent to each regularly enrolled student prior to the start of the academic year.

The Student Health Service is supported by the comprehensive fee which is *required* of all regularly enrolled full-time students in medicine, dentistry and dental hygiene, pharmacy, nursing, basic sciences, medical technology, radiation science, physical therapy, occupational therapy, health care management, hospital administration, nurse anesthesia, and nurse practitioner. A health service fee is *required of all students living in university dormitories*. On the MCV Campus, this also applies to special students, and students or trainees in non-degree programs such as cytotechnology, EEG technology, and blood banking (for fees, see page 19). Part-time students who do not live in university dormitories are not eligible for care in the Student Health Service.

A university sponsored student accident and sickness hospitalization insurance plan supplements the benefits available under the Student Health Service and provides reasonable protection at moderate group rates against the high cost of hospitalization and treatment for serious illness and accident. The insurance plan is voluntary but is strongly recommended for all students who do not already have comparable coverage. Married students may enroll their spouses and dependent children. Part-time students not living in university dormitories are not eligible for the insurance plan.

Every new student and every student reentering after an absence of one year or more is required to have a pre-entrance physical examination. Health records, which are provided, must be properly completed and returned to the Student Health Service prior to

the beginning of school. Any remediable defects should be corrected before entering the university.

New students will be tested for rubella immunity and immunized if necessary. Students who are not covered by the Student Health Service and must be tested will be charged for this service.

A reorganization of the Student Health Service is currently under consideration.

POSTAL SERVICE

All mail should be addressed to Virginia Commonwealth University, MCV Station, Richmond, Virginia, 23298. MCV Station, a contract branch of the United States Postal Service, is equipped to handle the usual business conducted in an official post office. Window service is offered Monday through Friday from 8 am to 5 pm.

All dormitory residents have only dormitory mail boxes, and their mail should have the name of the dormitory and room number on it.

Students living off campus should have mail sent to their local addresses.

Students in some programs are assigned MCV post office boxes for the convenience of the university and are so notified by their respective schools.

A notary public is located at the post office.

THE STUDENT BODY ORGANIZATION

The Student Body organization on the MCV Campus was formed to promote college activities; to promote a concern among students for each other, and a greater identification with the university; to express a unified voice in matters which affect the best interests of the student body; and and to foster a constructive relationship between the university and the community and state.

The student body on the MCV Campus operates through the Student Government Association (SGA). Representatives are elected from each class of the health science schools on the basis of one representative per 40 students.

SGA meetings are held monthly from September through April, except December, in Sanger Hall and are open to all MCV Campus students. In 1977-78, the SGA had an operat-

ing budget of more than \$38,000 through which the yearbook and numerous social activities were funded. The association sponsors blood drives, University Guest Day, and other community projects. It also subsidizes the purchase by students of season tickets for local cultural events. The SGA provides a forum for discussion of student ideas and suggestions and serves as a means for initiating innovative changes in campus life. In recent years, the SGA has addressed some issues with officials at the state and local levels as well as top university administrators.

HONOR CODE

The Student Body organization, believing that self-government in college is fitting preparation for self-government in life following graduation, conducts its affairs by means of an honor system under which every student is assumed to be trustworthy and unwilling to do anything dishonest or dishonorable. The honor system was inaugurated by students during the academic year 1895-1896 and while procedures have been modified, the essential spirit of the system remains unchanged.

Any student failing to live up to the principles of the honor system by lying, cheating, or stealing is subject to punishment ranging from censure and probation to expulsion from the university. Judgment is made by the Honor Council which is elected by the student body. All students must support the Honor Code and report infringements thereon to the Honor Council. The following pledge applies to all examinations unless otherwise stated by the instructor: "On my honor, I have neither given nor received aid on this examination, quiz, or test." Each student, as a condition of matriculation at the MCV campus of Virginia Commonwealth University agrees in writing to abide by and uphold the Honor Code. A detailed description of the Honor Council's rules and procedures is available upon request to the Office of Student Government.

Students who are not enrolled in a formal program in one of the schools on the MCV Campus, but take courses on the MCV Campus are expected to abide by the Honor Code.

EXTRACURRICULAR ACTIVITIES

Student Center (see page 15).

MCV Campus Gymnasium and Intramurals

The gymnasium offers a full recreational program for students, housestaff, and faculty. The gym contains three basketball courts, volleyball courts, two tennis courts, two handball-racketball courts, two squash courts, a weight room, an exercise room, a lounge-game room, and locker and shower facilities. Students may check out equipment to be used in the various facilities. Special gymnastics equipment, boxing bags and gloves, and a steam bath complete the facilities. The construction of additional court facilities, a gymnastics-exercise room, a training room, and dressing facilities is to begin in the near future.

MCV students may use the university swimming pool located in the Franklin Street Gymnasium on the Academic Campus. Student ID cards are required.

An extensive intramural program is offered to men and women students and housestaff. Team sports include flag football, basketball, three-man basketball, volleyball, slow pitch softball, and track. Individual tournaments are held in tennis, handball, racketball, squash, table tennis, billiards, badminton, swimming, wrestling, one-on-one basketball, and basketball free-throw.

Club sports include tackle football, rugby, tennis, karate, and fencing. Karate and self-defense classes are held in the MCV Campus Gymnasium. Various elective classes are offered for credit to men and women through the Department of Physical Education on the Academic Campus. Noncredit classes are offered for students, faculty, and spouses in tennis, physical fitness, and oriental dance.

Religious Activities

All churches in Richmond welcome our students. Monumental Church, located on the MCV Campus was designed by an early American architect, Robert Mills, and the building has been designated as a Virginia Historic Landmark and is listed in the National Register of Historic Places. It is used for special services and for other student group assemblies. It is available for use by the various religious workers.

Although much of the work is now done, the building is still undergoing restoration and

will have only limited use until the restoration is completed.

CULTURAL OPPORTUNITIES IN RICHMOND

The student affairs offices assist in planning extracurricular activities for the intellectual, cultural, religious, and recreational life of students.

The resources of the Virginia State Library as well as those of the Richmond Public Library, located a few blocks from both campuses, are available.

Near the MCV Campus is the Valentine Museum, with its excellent historical displays of early Richmond, and the White House of the Confederacy with memorabilia of the Civil War.

Students have the opportunity to purchase season tickets to the imaginative programs of the Virginia Museum of Fine Arts. These include chamber music, theatre, outstanding films of the past, and ballet, as well as fine art exhibits.

The Richmond Symphony and the Richmond Sinfonia are the recipients of enthusiastic support of music critics and the public alike.

Various dinner-theaters in the area, as well as the Shafer Street Theatre on the university's Academic Campus, provide delightful evening entertainment.

The Richmond Public Forum and Kiwanis Travelogues provide additional cultural-educational programs. Season tickets are available at nominal cost.

The 12,176-seat Richmond Coliseum is located west of the MCV Campus. The coliseum programs include sports events, spectaculars, circuses, musical groups, and various other stage events.

ALUMNI OF THE UNIVERSITY

Virginia Commonwealth University has 40,000 alumni of whom over 16,150 are graduates of MCV/VCU. These alumni live in each of the states and 33 foreign countries. The Alumni Activities Office coordinates alumni functions and serves as a resource center for those who studied here.

Through the annual fund, alumni are given the opportunity to support the various schools and departments in the university. Such sup-

port provides resources for innovation and the development of educational programs.

The Medical College of Virginia Alumni Association of Virginia Commonwealth University, organized March 28, 1889, has functioned continuously since that time. It was incorporated in 1943. The association is housed in the historic Maupin-Maury House at 1105 East Clay Street.

The university's Alumni Activities Office, in cooperation with the Medical College of Virginia, Nursing, and Health Administration Alumni Associations, keeps alumni informed about all aspects of the programs at MCV/VCU.

Inquiries about alumni activities should be addressed to the Alumni Activities Office, 828 West Franklin Street, Richmond, VA 23284, (804) 257-1227.

INTERNATIONAL STUDENTS AND VISITORS

The university subscribes to the intent and purpose of the Mutual Educational and Cultural Exchange Act, the regulations of which permit international students and visitors to become a part of the university community to pursue their objectives.

In order for the university to qualify with the United States government as a place of training for international students and visitors, the university is obligated to determine: (a) that applicants have the necessary ability and educational backgrounds to benefit from their experiences at this institution; (b) that their proficiency in English is sufficient to carry a full program of study or training; and (c) that they have all the funds necessary for their expenses for the entire period of their stay without resorting to employment while in the United States. The university has no financial resources for foreign students.

Foreign students who do not hold visas for permanent residence cannot qualify as residents of Virginia and must pay the nonresident tuition charges.

Once a foreign national has been admitted, he or she is treated as any other student except for the immigration and naturalization rules and regulations which take precedence over the university rules. The university cannot register a foreign national until the Immigration and Naturalization Service gives its official approval.

The university has a foreign student advisor on each campus who meets with all foreign students after their arrival, counsels and advises them in their adjustment to the university, and prepares the necessary government forms needed by foreign nationals to maintain correct visa status with the U.S. government.

Foreign students residing outside the United States should allow six months between application for admission and actual matriculation at the university.

Admission Regulations

The Medical College of Virginia of Virginia Commonwealth University does not limit applications to residents of the Commonwealth of Virginia; however, priority is given to those who are legal residents. Candidates are considered without regard to race, creed, sex, or national origin.

For detailed information regarding admission requirements and procedures, refer to the appropriate school sections of this bulletin.

Tuition, Fees, and Expenses

The university reserves the right to revise or alter all fees, regulations pertaining to student fees, and fee collection procedures whenever such revisions or alterations are deemed necessary. Fees are not returnable except under most unusual circumstances and then only on the recommendation of the dean concerned. See Refunds and Rebates on page .

All fees are due and payable in full at the MCV Student Accounting Office, 520 North Twelfth Street, Richmond, VA 23298, prior to or as of registration as required and stated in each semester's billing. Students registering pay the fees shown below, plus special fees and deposits as required. Completion of arrangements with the Student Accounting Office for payment from accepted scholarships, loan funds, grants, or contracts shall be considered sufficient for acceptance of registration. Students are reminded, however, that they are ultimately responsible for repaying such loans in full according to the terms of the loan agreement.

Unless arranged through the school and the Office of Registrar Services, students failing to register during the regular registration periods are subject to a late registration fee of \$10.

No degree will be conferred upon any candidate prior to the payment of all tuition, fees, and other indebtedness to any school of the university.

APPLICATION FEE AND DEPOSITS

Application Fee: Except for the Schools of Medicine and Dentistry, each student applying for admission or readmission to the university shall pay a \$10 nonrefundable fee. Applicants to the School of Medicine pay a \$25 nonrefundable application fee. Students applying to the School of Dentistry pay a \$15 nonrefundable fee. This fee shall accompany the application form sent to the Admissions Office.

Tuition Deposit: On being notified of his appointment to the entering class, the applicant may be required to pay a deposit, depending on the school, on tuition for the first year. This deposit is not refunded but is applicable to first semester tuition. Authorization to matriculate constitutes an agreement for the reservation of a place in the class entering for the session cited.

Dormitory Security Deposit and Damage Fee: A \$50 dormitory deposit is required of each student completing an agreement for residence hall accommodations. This deposit is *not* applicable to the room and board charges, but remains on deposit to be applied toward possible room damage. As such, the deposit shall be returned, minus any damage charges, when the student terminates his connection with the university.

Dormitory security deposits that would otherwise be returned to the student will be applied against any financial obligation which the student may have outstanding in the Office of Student Accounting.

TUITION CHARGES PER STUDENT

The tuition charges shown on page are for the academic year 1979-80. Educational costs are subject to similar price adjustments found in the cost of other commodities; therefore, fees may change for the academic year 1979-80 and 1980-81.

The tuition rates 1979-80 for medicine, dentistry, and pharmacy have been set in anticipation that federal support will continue at present levels or higher. Should federal capitation grant funds support be reduced, it may be

necessary to increase tuition rates by the same dollar amount as the reduction in federal support.

Virginia Student Classification: The law affecting Virginia residents is as follows: "No person shall be entitled to the admission privileges, or the reduced tuition charges, or any other privileges accorded only to domiciliaries, residents or citizens of Virginia, in the state institutions of higher learning unless such person is and has been domiciled in Virginia for a period of at least one year prior to the commencement of the term, semester or quarter for which any such privileges or reduced tuition charge is sought, provided that the governing board of such institutions may set up additional requirements for admitting students." Students may apply to the Office of the University Registrar for Virginia residency status through forms available from the Office of Registrar Services.

Special Students: A student who has been given special permission by the dean of certain schools to enroll as a special student shall pay the appropriate part-time student tuition and fees.

Summer Students: Students enrolled in certain health science programs in which full-time study extends into the summer session will be assessed additional charges for the summer program, field work, or clinical affiliations as may be appropriate. All other students, graduate and undergraduate, registering for courses during the summer will pay the current semester hour credit rate of tuition as indicated below.

PART-TIME STUDENTS—REGULAR TERM

Undergraduate Programs	Rate per Semester hour credit	
	Resident	Non-resident
Pharmacy.....	\$49	\$84
All other.....	36	72
First Professional and Graduate Programs		
Medicine and Dentistry	\$104	\$172
Pharmacy (Pharm.D.)	49	84
Health Administration	56	112
All other.....	44	65

In addition, all part-time students are required to pay a consolidated fee of \$6.50 per semester hour credit for which they are registered.

PART-TIME STUDENTS—SUMMER SESSION

	Rate per Semester hour credit	
	Resident	Non-resident
Undergraduate Programs	\$36	\$72
Graduate Programs	44	65

In addition, part-time students in the summer session are required to pay a consolidated fee of \$0.80 per semester hour credit for which they are registered.

Part-Time Graduate Study Fees: Regularly enrolled candidates for the M.S. or Ph.D. degree in residence on the MCV Campus will be charged full tuition and fees if registered for nine or more semester hours. The part-time tuition rate will be paid by students registered for less than nine semester hours. Graduate students must register for a minimum of one semester hour each semester they continue as a candidate for a degree. The time limit for completion of requirements is five years for the M.S. degree and seven years for the Ph.D. degree.

FULL-TIME STUDENTS

Undergraduate students registering for either the fall or spring semester for 12 or more semester hour credits are billed full time rates.

Graduate students registering for either the fall or spring semester for nine or more semester hour credits are billed full time rates. Students with an excess of 19 semester hour credits or an excess over their full time specialized programs will be charged part-time rates as listed for part-time students for each hour over the required maximum. Students enrolled in Health Science programs must obtain permission from the dean of the school in which they are enrolled before registering for additional courses. If the course is not related to the specialized program, a part-time tuition charge will be assessed. In addition to the per credit hour tuition charge, students must pay special course fees where such are designated whether or not the course relates to the student's specialized program.

SPECIAL CHARGES

Consolidated Fee: Because of specialized programs, all full-time students are required to pay a consolidated fee of \$156 per academic year and \$20 for full-time summer enrollment.

FINANCIAL AID DEPARTMENT 1979-80 Student Standard Living Allowances

ALLOWANCE FOR	ON CAMPUS			OFF CAMPUS				
	Single	Residing With Parents	Single	Single Plus One Dependent	Single Plus Two Dependents	Married	Married Plus One Dependent	Married Plus Two Dependents
Rent	\$1,200	\$ 0	\$1,600	\$2,850	\$3,000	\$2,850	\$3,000	\$3,600
Food	\$1,200	\$450	\$1,200	\$1,700	\$2,250	\$2,400	\$2,900	\$3,400
Transportation	\$ 600	\$800	\$ 600	\$ 750	\$ 850	\$ 850	\$1,000	\$1,200
Personal	\$ 600	\$350	\$ 600	\$1,000	\$1,200	\$1,200	\$1,400	\$1,600
TOTAL (12-month) Allowances	\$3,600	\$1,600	\$4,000	\$6,300	\$7,300	\$7,300	\$8,300	\$9,800

The above allowances are the average amounts spent by students for their living expenses. These allowances are used to calculate eligibility for university "need based" financial aid awards. Unless a student is typical in all respects, actual costs will vary according to life style. These allowances should be useful for you in the following Self Determination of Cost and Need.

SELF DETERMINATION OF EDUCATIONAL COST AND FINANCIAL NEED

Tuition	\$ _____								
Fees	\$ _____								
Books	\$ _____								
Supplies	\$ _____								
		Plus	Student Living Allowance	Equals	Total Educational Cost	Less	Total Family Contribution	Equals	Financial Need
TOTAL	\$ _____		\$ _____		\$ _____		\$ _____		\$ _____

The standard books and supplies allowance is \$200 per year. Graduate/professional allowances will vary greatly depending upon school, department, or major field. Refer to university catalogues for appropriate allowances and for current tuition and fee charges.

Part-time students are required to pay a consolidated fee of \$6.50 per credit hour equivalent each semester and a \$0.80 per credit hour equivalent for part-time summer enrollment.

The consolidated fee is dedicated to the support of student facilities, campus development, intercollegiate athletics and the MCV Campus Student Health Service. Funds for these programs are budgeted annually.

Students are required to pay a Student Government Association fee of \$19 per academic year. This fee is determined annually and assessed by the Student Government Association on the MCV Campus.

Full-time Students are billed for one-half of the consolidated fee (\$78) and one-half of the Student Government Association fee (\$9.50) each semester.

NON-RECURRING CHARGES

Application Fee	\$10 ¹
Conditional Examination Fees	5 per examination
Identification Card Replacement.....	3 each
Late Registration Fee.....	10 each
Readmission Fee.....	10 each
Transcripts (Student Records).....	1 each

Tuition deposits required—Apply to first semester tuition. See chart on page 27.

FEES FOR DORMITORY RESIDENTS

The charges for matriculation, tuition, and other instructional services are the same for dormitory residents as for commuting students. Other dormitory resident charges for the academic year:

Room Rent	
Cabaniss, McRae	\$850
Rudd, Bear, and Warner	820
Dormitory Security Deposit and Damage Fee.....	50
Meals	
Student Board Plan	
(21 meals per week only)	730
(15 meals per week only)	690

Board plan rates are for 1978-79 and are subject to change for 1979-80.

The fees for dormitory rent and student board plan (meals) are payable at the time tuition and student fees are due. Dormitory contracts must be signed and damage deposit paid prior to registration. Students and trainees residing in university dormitories—whether

they are full-time, part-time or special students—in non-degree programs such as cytotechnology, blood banking and EEG technology are required to pay a special health service fee of \$36 per semester.

For further information on student housing see page 15.

INSURANCE

The university is not responsible for accidents occurring to students in connection with class, laboratory, shop, field work, athletics, student activities, travel, or other activities.

The university offers to its students an approved insurance plan providing substantial benefits at group rates. The Student Hospital and Accident Insurance Plan is written through North American Assurance Society. The university recommends but does not require that all students enroll in the Student Group Insurance. Part-time students not living in the dormitory are not eligible for group insurance.

REFUNDS AND REBATES

A full- or part-time student who withdraws in good standing shall be entitled to a refund of a portion of his tuition, room, and board fees for the semester in which he is currently enrolled. All other fees are non-refundable.

Request for Refund. A request for a refund shall be made in writing to the dean of each school and dean of student services before said request can be considered. The following policy governs the refund of room, board, and tuition fees:

1. A student who fails to register or is denied permission to register will be entitled to a full refund of tuition, room, and board if paid in advance. First-year students who fail to register forfeit deposit on tuition.
2. Students entering involuntary military service of the United States will be granted a refund on a prorated basis.
3. A student will be entitled to a refund of 80 percent of his room, board, and tuition fees upon withdrawal before the end of the first week of the term (seven consecutive calendar days beginning with the first day of classes) and a decrease of 20 percent each week there-

¹ Application fee for School of Medicine—\$25; School of Dentistry—\$15.

after up to and including the fourth calendar week. **NO AMOUNT WILL BE REFUNDED FOR WITHDRAWAL AFTER THE FOURTH CONSECUTIVE CALENDAR WEEK OF THE TERM.**

The actual date of withdrawal will be certified by the office of the school's dean; and refund, when appropriate, will be computed based on that certified date. Students must complete the official University Withdrawal Form S which may be obtained from the Office of Registrar Services. Refunds will not be made to students who do not attend classes and have not completed the required withdrawal procedure.

Contracts for room and board (except in cases involving contracts initiated during the spring and summer terms) are for a two-semester period. If a resident voluntarily withdraws from the university residence halls without clearance from the Office of the Dean of Student Services but remains at the university, he will be responsible for full room and board fees. Subletting is not permitted. Exceptions to the above policy can be made only by the Office of the Dean of Student Services.

DELINQUENT ACCOUNTS

The university will not issue a degree, transcript of grades, or grade reports to any student who has not paid all charges in full. Students whose accounts are not paid in full may not be admitted to final examinations at the end of semesters.

A student who fails to remit payment of tuition and fees when due may be suspended and will not be permitted to attend classes until he has paid all accrued charges and is officially reinstated. Application for reinstatement is to be made through the office of the dean of the school in which the student is enrolled.

LOAN REPAYMENTS

Recipients of National Direct Student Loans or any of the Health Professions Loans (Medicine, Dentistry, Pharmacy or Nursing) are required to undergo an "exit interview" with a representative of the Office of Student Aid Accounting (327 West Main Street, Richmond, VA 23284) before withdrawal or graduation from the university. Interviews for

Health Professions Loan recipients are usually scheduled as group presentations. Interviews of NDSL recipients are on an individual basis. Students who are on off-campus assignment and must be absent during the interview process are asked to call the above office [(804) 786-2301] for an appointment. Students are encouraged to call this office if they have questions concerning their rights and responsibilities under any of the loan programs.

FINANCIAL ASSISTANCE

General

Students are advised that financing their education is primarily their or their families' responsibility. A variety of loans, grants, scholarships, and employment is available to those students who can demonstrate a need for financial assistance. Because the level of funding from federal, state, and institutional sources changes from year to year, as does the number of needy students, no guarantee can be made as to the amount of financial aid offered to any student. The timeliness of aid application submissions and the thoroughness of the individual student's exploration of all forms of financial assistance will minimize the lack of money as an obstacle to the pursuit of educational goals.

Students should determine the total educational cost for the academic year to determine the extent of their financial need. Direct educational costs (tuition, fees, books, instruments, and supplies) are shown in tabular form on page 27. Institutional allowances for indirect costs (room, board, transportation, and personal expenses) are shown on page 21. After adding direct costs and individual indirect costs and subtracting all student and family contributions, if a need exists, the student should seek financial aid.

Guaranteed Student Loan

All students should apply first for a Guaranteed Student Loan through the bank, credit union, or savings and loan institution where they or their family have an established account. Loan amounts may vary, both by state or federal maximums or by lenders' loan policies. Virginia state maximums for one year are \$2,500 for undergraduates and \$5,000 for graduates. If unable to obtain a Guaranteed Student Loan from a commercial lender, state

resident students may seek a loan from the Virginia Educational Loan Authority through the Financial Aid Office. With the passage of the Middle Income Student Assistance Act in November 1978, student or parental income is no longer a factor in determining student eligibility for a Guaranteed Student Loan or interest subsidy for such a loan. All Guaranteed Student Loans are now subsidized while the borrower remains in a half-time or more student status and for a nine-month grace period thereafter. Upon expiration of the grace period, the student borrower is expected to begin repayment of the principal and the interest.

Application Procedures

The application form for university administered aid is the Financial Aid Form. This is available from the MCV Financial Aid Office, Room 105, Bear Hall, 10th and Leigh Streets; or by mail: Financial Aid Office, Box 244, MCV Station, Richmond, VA 23298.

All undergraduate students are expected to apply for the federal Basic Educational Opportunity Grant and any applicable state grant. With the impetus of the Middle Income Student Assistance Act, student eligibility for the Basic Educational Opportunity Grant has been significantly increased, and students with an annual family income of up to \$25,000 or more will be considered for this grant. For Virginia students the state grant is the State Council of Higher Education's College Scholarship Assistance Program. Both of these grants are applied for through the FAF. Undergraduate students are cautioned that the application deadline for College Scholarship Assistance Program aid is March 31. Graduate students, including medical and dental students, and holders of a baccalaureate degree enrolled in a second undergraduate program, are not eligible for these federal or state grants and should not apply.

Priority deadlines for application submission are: First priority—March 1; Second priority—May 1; Third priority—July 1. Applications received after May 1 may result in incomplete financial assistance. All questions as well as requests for applications or assistance should be directed to the MCV Financial Aid Office at the above address.

Major University Aid Programs

All undergraduate students who submit a completed Financial Aid Form will be considered for aid from the following programs, as appropriate: National Direct Student Loans, Health Professions Student Loans, Nursing Loans and Grants, College Work-Study employment, Virginia Undergraduate Grants, Supplemental Educational Opportunity Grants, and private loans and scholarships administered by the university. All graduate students will be considered, as appropriate, for National Direct Student Loans, Health Professions Student Loans, Nursing Loans and Grants, College Work-Study employment, and private loans and scholarships administered by the university. First-year medical, dental, and pharmacy students may also be considered for Exceptional Financial Need Scholarships.

College Work-Study Program: This is a joint federal and university effort which permits students to work for the university or local nonprofit agencies. Students are paid weekly on an hourly pay scale. Job placement is made by the Financial Aid Office. Awards range from \$200 to \$2,000 per year.

National Direct Student Loan: This is a joint federal and university program which may loan from \$200 to \$2,500 per year to students. It is repaid beginning nine months after termination of attendance at 3 percent interest for a period not to exceed 10 years.

Health Professions Student Loan: This is a joint federal and university program which permits students to borrow up to \$5,000 a year. The loan is repaid beginning 12 months after termination of attendance at 7 percent interest for a period not to exceed 10 years. Under certain conditions, up to 85 percent of the loan obligation may be repaid by professional service in a shortage area. Payment of the loan may be deferred during periods of internship and residency.

Nursing Student Loan: This is a joint federal and university program which may loan from \$200 to \$1,500 per year to nursing students, both undergraduate and graduate. The loan is repaid beginning nine months after termination of attendance at 3 percent interest. Under certain conditions, up to 85 percent of the loan obligation may be repaid by professional service.

Virginia Undergraduate Grant: This is a university program of grant aid to undergraduate students who are state residents and who have high financial need. Awards may range from \$200 to \$1,000 per year.

Supplemental Educational Opportunity Grant: This is a joint federal and university program of grant aid to undergraduate students who have exceptional financial need. This grant must always be combined with other forms of institutional aid, at a minimum on a matching basis. Awards range from \$200 to \$1,500 per year.

Exceptional Financial Need Scholarship: This is a federal program which offers to medical, dental, and pharmacy students with exceptional financial need a scholarship which pays for direct college costs and allows a 12-month stipend of \$453 monthly. Only first year students are eligible, and each of the three schools is currently allotted one scholarship per year.

Other Scholarships For Medical and Dental Students

U.S. Armed Forces Scholarship: The Army, Navy, and Air Force provide for up to four years of paid tuition and fees, book and supplies allowance, and about \$400 per month stipend in exchange for military service after graduation. Normally the recipient serves one year on active duty for each year of scholarship, with a minimum of three years.

National Health Service Corps Scholarship: The U.S. Public Health Service provides for up to four years paid tuition and fees, book and supplies allowance, and a monthly stipend of \$453, in exchange for fulltime clinical practice in the National Health Service Corps. Normally the recipient serves one year for each year of scholarship, with a minimum of two years. Selections will be made by NHSC prior to August of each year.

State Family Medicine Scholarship: The state pays \$2,500 per year to students who agree to serve, for the number of years for which the scholarship is received, in a state department such as Mental Health and Mental Retardation, Welfare or Corrections, or in a designated area of need in the state.

National Medical Fellowships, Inc., Scholarship: This nonprofit group offers scholarships to members of minority groups in

medicine. Scholarship awards are made primarily on the basis of need. Currently the maximum first-year award is \$1,400 and the second-year is \$500. Third and fourth year medical students are not eligible.

State Dental Practice Scholarship: The state pays \$2,500 per year to students who agree to serve, for the number of years for which the scholarship is received, in a state department such as Mental Health and Mental Retardation, Welfare or Corrections, or, if there are no vacancies in state institutions, in a designated area of need in the state.

The Financial Aid Office can furnish details on any of these programs.

Departmental Scholarships: Several schools and departments make scholarships available to current or admitted students. Eligibility may or may not be based on financial need, and other selection criteria are generally used. Such scholarships, however, must be included in the total financial aid award made to students receiving additional aid through the Financial Aid Office. Inquiries should be directed to the appropriate dean or department chairman.

General Academic Regulations

ADVISING PROGRAM

Students are responsible for the proper completion of their academic program. They should be familiar with the university bulletin, including general academic regulations and any other supplementary academic regulations presented in their individual school section. The offices of the deans and department chairmen, in cooperation with the faculty, endeavor to follow each student's academic progress, and students are encouraged to seek counsel whenever there is a need. If an advisor is unable to resolve a problem satisfactorily, the student will be referred for further advice as is deemed appropriate and necessary.

ATTENDANCE/CONTINUANCE POLICIES

Attendance and continuance policies vary among the individual schools and may be found under the appropriate *sections in this bulletin*. As a general rule, class attendance requirements are announced by instructors at the first class meeting.

CANCELLATION OF REGISTRATION

A cancellation of registration must be made prior to the first day of classes by notifying in writing the Office of the University Registrar and the dean of the school in which the student is matriculated. Refunds will be issued in accordance with procedures set forth under the Refunds and Rebates section of this Bulletin, page 22.

CHANGE OF MAJOR

Students wishing to change their major area of concentration must have the approval of the dean of the school and admissions committee, where appropriate, and the chairman of the department to which the student is applying. Change of major forms are available in the Office of Registrar Services, Room 1-055, Sanger Hall.

Students who are currently enrolled in a program on the MCV Campus and who wish to change to a curriculum on the Academic Campus will do so through a change of major. Such students are subject to the continuance policy of the Academic Campus in making a change of major.

CHANGE IN REGISTRATION

Students registered for a planned program are expected to maintain their registration except for special reasons. Should a change of program be deemed advantageous to the student and the school by the appropriate school dean, the student may make the change during the add/drop period after the beginning of classes. Changes in registration are performed at the Office of Registrar Services by the following procedure:

(a) An add/drop form, obtained at the Office of Registrar Services, is used to add or drop courses and must be signed by the student's advisor, department chairman, and dean.

(b) Courses dropped during the add/drop period do not become part of the student's permanent academic record.

Following the add/drop period no courses may be added. Courses may be dropped by obtaining the proper form from the Office of Registrar Services which must be signed by the student's advisor, department chairman, and dean. Courses dropped after the add/drop period will remain a part of the student's

permanent academic record and will carry grades of "W", "WP," or "WF". If a student fails to complete an Add/Drop Form when he or she ceases to attend a class, this may result in the assignment of a failing grade in the course. A course may be dropped during the last three weeks of instruction only under unusual circumstances and with approval of the department chairman and dean. (For grade definitions, see page 28.)

VETERAN'S ADMINISTRATION EDUCATIONAL BENEFITS

To receive Veteran's Administration educational benefits, veteran students must comply with established procedures. Veterans receiving benefits must request certification each semester and each summer session from the University Office of Veteran Affairs located at 327 West Main Street, room 102. Veterans should contact this office for additional information.

DEGREE REQUIREMENTS

Candidates for degrees are eligible for graduation upon completion of their school's requirements in effect at the time of first registration, provided requirements are met within the time limit specified by the school not to exceed a period of seven years.

The institution reserves the right, however, to require students whose programs are interrupted for any reason to meet requirements as specified by the dean or director of the program. Changes in the student's original program may be necessary when, for example, a curriculum has been revised, offerings are no longer available, significant changes in course content have occurred, or repetition of material is deemed essential to insure continuity and clinical competence. Students failing to satisfy the time requirement shall satisfy requirements in effect at the time of reacceptance into the degree program.

Most of the health sciences programs include clerkships or practicums as a required part of their curricula. Some of these activities may be provided in off-campus facilities requiring students to travel and reside some distance from Richmond. As a rule, no refund of payments for tuition, fees, or other purposes may be expected by the students if credit is granted for time spent in this phase of the program.

1979-80 EXPENSES—MEDICAL COLLEGE OF VIRGINIA OF VIRGINIA COMMONWEALTH UNIVERSITY

Program	TUITION PER ACADEMIC YEAR		Consolidated Fees*(1)	Tuition Deposit	Textbooks	ESTIMATED COST			TOTALS	
	Resident	Non-Resident				Equipment, Instruments, Supplies	Lab, Costs, Uniforms	Miscellaneous Fees and Costs	Resident	Non-Resident
Medicine:*(2)										
M-1.....	\$2480	\$4120	\$175	\$100	\$430	\$375	\$25	—	\$3485	\$5125
M-2.....	2480	4120	175	—	295	55	55	—	3060	4700
M-3.....	2480	4120	175	—	155	80	—	—	2890	4530
M-4.....	2480	4120	175	—	155	155	55	—	3020	4660
Dentistry:*(2)										
D-1.....	2480	4120	175	200	350	1615	40	—	4660	6300
D-2.....	2480	4120	175	—	360	1530	20	—	4565	6205
D-3.....	2480	4120	175	—	150	325	10	—	3140	4780
D-4.....	2480	4120	175	—	90	25	10	—	2780	4420
Dental Hygiene:										
DH-1.....	845	1690	175	100	350	235	110	—	1715	2560
DH-2.....	845	1690	175	—	150	110	—	—	1280	2125
Pharmacy:*(2)										
P-3.....	1175	2020	175	50	235	45	25	—	1655	2500
P-4.....	1175	2020	175	—	200	15	15	—	1580	2425
P-5.....	1175	2020	175	—	30	20	20	—	1420	2265
Pharm.D.....	1175	2020	175	50	140	160	55	—	1705	2550
Nursing:										
N-3.....	845	1690	175	50	250	75	125	110*(3)	1580	2425
N-4.....	845	1690	175	—	150	—	—	150*(3)	1320	2165
Nurse Practitioner:										
FNP & OGNP.....	920*(4)	1840	175	—	150	265	30	—	1540	2460
FNP.....	550*(4)	1100	175	—	150	225	30	—	1130	1680
Graduate:										
G-1,G-2,G-3,G-4(does not include summer).....	790	\$1110	175	—	—	—	variable	—	—	—
Allied Health Professions:										
Health Care Management:*(5)										
HCM-3.....	845	1690	175	50	300	50	—	25	1395	2240
HCM-4.....	845	1690	175	—	300	50	—	40	1405	2255
Health Administration:										
HAD-1(incl. summer).....	1399	2798	175	150	650	200	—	—	2424	3823
HAD-2(incl. summer).....	894	1788	175	—	200	50	—	—	1319	2213
Med. Record Administration:										
MRA-3.....	845	1690	175	50	300	50	50	—	1420	2265
MRA-4.....	845	1690	175	—	200	20	10	—	1250	2095
Medical Technology:*(5)										
MT-3.....	845	1690	175	50	250	60	175	—	1505	2350
MT-4.....	845	1690	175	—	75	30	50	—	1175	2020
Nurse Anesthesia:										
NA-2(incl. summer).....	625	940	175	—	65	—	—	—	865	1180
Occupational Therapy:*(5)										
OT-3.....	845	1690	175	50	200	60	25	50	1355	2200
OT-4.....	845	1690	175	—	150	30	25	—	1225	2070
Patient Counseling:*(5)										
Full-time(incl. summer).....	350	585	175	—	—	—	—	—	525	760
Summer Intern. only.....	150	300	—	—	—	—	—	—	—	—
Physical Therapy:										
PT-3.....	845	1690	175	50	400	75	125	250*(6)	1870	2715
PT-4.....	845	1690	175	—	200	50	175	650*(6)	2095	2940
Radiologic Technology:										
RT-1.....	845	1690	175	50	260	15	300	—	1595	2440
RT-2.....	845	1690	175	—	65	15	25	—	1125	1970
RT-3.....	845	1690	175	50	260	15	—	—	1295	2140
RT-4.....	845	1690	175	—	65	15	—	—	1100	1945

*(1) Includes SGA fee of \$19

*(2) See "Tuition Charges per Student," page 19

*(3) Transportation cost of clinical assignments

*(4) Includes preceptorship

*(5) Additional tuition & fee charges made for summer clinical programs

*(6) Clinical affiliation cost

All degrees are conferred by the VCU Board of Visitors upon recommendation of the faculties of the various schools. Degrees are granted at the close of the semester or summer session in which the students complete their work.

Candidates for degrees to be conferred at the close of the spring semester must be present to receive their degrees unless excused by the deans of their schools. No individual may be exempt from this regulation.

Graduate and Professional Degrees. Degree requirements are specifically outlined in the various schools' sections in this bulletin.

General Undergraduate Degrees. In addition to the course requirements indicated in the curriculum outlines, candidates for degrees are governed by the following policies:

Grade Point Average. An overall grade point average (GPA) of at least 2.0 (a "C" average), except as may be specified for certain programs, is required on all work presented for either the associate or bachelor's degree.

Required Credits. The total number of semester hour credits required for graduation depends on major area of concentration and the type of degree.

Resident Requirement. Degree candidates are required to complete the last 30 credits for a bachelor's degree and the last 15 credits for an associate degree at this institution.

Double Major Concentration. A double major is the fulfillment of requirements in two majors. For further information consult the *Virginia Commonwealth University Academic Campus Bulletin*.

GRADING SYSTEM

Grade Reports. An official university grade report, showing the student's standing in courses and grade point average, when specified by the school, will be mailed each semester and at the end of the Summer Sessions to the student's mailing address as designated on the registration form.

Grade Point Average. The grade point average, reflecting semester and/or cumulative work as specified by each school is computed by dividing the number of grade points earned by the number of semester hours attempted for which grades "A" through "F" or "WF" have been assigned. The GPA is intended to

assist students in analyzing work performance and in determining areas requiring greater attention.

Repeated Courses. Because some schools do not allow students to repeat courses, any student planning to do so must first consult with his or her advisor, program director, or department chairman.

The semester credits attempted and the grade points earned for all attempts are included in computing the cumulative grade point average. No matter how often a course is repeated, it may be counted only once as credits presented toward graduation.

GRADES

Work quality is measured by the four-point grade system with the following equivalents:

Grade Symbol and Meaning	Grade Point Value Per Semester Credit
A	4.0
B	3.0
C	2.0
D	1.0
F	0.0
WF = Withdrawn failing	0.0
I = Incomplete	— ³
P = Pass	—
AU = Audit	—
W = Withdrawn	—
WP = Withdrawn passing	—
H = Honors	—
PR = Progress	—
CO = Continued	—

NG = Administrative grade assigned when no grade submitted by the instructor.

³ Grades designated by a blank, (—), in the grade point column are not considered in the computation of hours attempted, hours earned, grade points earned, or grade point average.

I = Incomplete—The grade of incomplete is assigned when course requirements, because of circumstances beyond the student's control, cannot be met by the end of the semester. The awarding of an "Incomplete" presupposes an understanding between the instructor and the student. Routine use of the grade of "I" is discouraged.

(a) With the exceptions of the Schools of Medicine and Dentistry, the maximum limit for the removal of an "Incomplete" from the permanent record card is the end of the last day of classes of the semester (or Summer Session) following the term in which the "Incomplete" was incurred. For programs leading to either the M.D. or D.D.S. degrees, the

maximum time limit is the last day of classes of the second following semester after the semester of registration in the course or specified project. At the end of the specific semester an unremoved grade of "Incomplete" is automatically changed to a failing grade. Any exceptions to this regulation must be extraordinary in nature and must be approved by the dean of the school involved upon the recommendation of the instructor; a written statement must be filed with the Office of Registrar Services.

(b) The "Incomplete" will not be computed into the student's grade point average.

(c) If course requirements are not completed by the end of the specified semester, a grade of "F" will be assigned.

W = Grade of withdrawn—The grade of "W", denoting a student's withdrawal from a course, will be assigned to any course dropped after the official add/drop period but prior to the mid-semester point (eight weeks after first day of classes). The grade of "W" will appear on the student's academic record but will not be counted as work attempted or computed into the GPA.

WF = Grade of withdrawn, failing—Withdrawn failing indicates that a student was failing the course at the time of an official drop, after the mid-semester point and prior to the last three weeks of class instruction of a semester. The grade of "WF" is included in the credit hours attempted by a student during a semester. This grade must be assigned by the instructor using a withdrawal grade assignment form.

WP = Grade of withdrawn, passing—Withdrawn passing indicates that a student was passing the course at the time of an official drop, after the mid-semester point and prior to the last three weeks of class instruction of a semester. This grade must be assigned by the instructor using a withdrawal grade assignment form.

AU = Grade of audit—Upon the approval of the student's advisor and the instructor and when class size permits, a student may register for a course on an audit basis. Audit students are charged the regular rate of tuition and fees, and audit courses are counted as a part of the student's semester credit hour total. A student auditing a course is subject to attendance regulations and is not required to take tests or the final examination. A grade of

"AU" will be entered on the academic record of all students enrolled for audit.

A change in registration from "audit" to "credit" or from "credit" to "audit" must be effected during the add/drop period. A course taken for audit cannot be given credit at a later date.

H = Honors—Courses assigned the "Honors" grade will not be computed into the grade point average.

P = Grade of Pass—Awarded as a grade for certain courses to denote satisfactory completion of requirements. Courses assigned the grade of "P" will not be computed into the grade point average.

PR = Grade of Progress—Assigned as an interim grade for certain continuing courses, research, or thesis projects which run over several grade reporting periods. The grade of "PR" may be assigned only in courses approved for such grading. Unlike the grade of "I," the grade of "PR" will not automatically be changed to a failing grade at the end of the succeeding semester.

CO = Grade of Continued—The grade of "CO" may be assigned as an interim grade for those courses which run over several grade reporting periods. The "CO" indicates that the course is not expected to be completed in a single semester and that the student **must re-register for the course**. Upon completion of the course a final grade will be assigned to the current semester and the previous "CO" grade(s) will remain. This grade may be assigned only in courses approved for such grading.

SCHOLARSHIP HONORS

Dean's List. For certain schools, students are placed on the dean's list for one semester if they have made a grade point average of 3.50 in the preceding semester, based on a minimum load of 15 credits with no grade below "C" Students with grades of incomplete or who are absent from the final examination are not eligible for the dean's list.

Graduation Honors. Candidates for degrees in certain schools may be eligible for special scholarship recognition under the following conditions:

High Honors. Students with a cumulative grade point average of 3.6 or above on all credits attempted toward the degree awarded.

Honors. Students with a cumulative grade point average of 3.3 or above on all credits attempted toward the degree awarded.

Graduation honors for medical students will be determined by the Medical School Promotion Committee.

A transfer student, to qualify for graduation honors for the baccalaureate degree, is required to complete a minimum of 45 credits at VCU with a scholastic average of 3.6 for high honors or 3.3 for honors. Performance at other institutions must be of sufficient quality to sustain the above averages.

Recognition of graduation honors will be made on the student's diploma, permanent academic record, and in the commencement program.

STUDENT LOAD

First professional students (seeking M.D. or D.D.S. degrees) are always defined as full-time students unless specifically designated otherwise by the individual school dean.

In those programs where it is used, a semester credit is defined as one hour per week of lecture-recitation or not less than two hours per week of laboratory work throughout a semester.

Graduate Level

All full-time graduate students are expected to register for at least 12 semester hour credits per semester, including research. As an example, students who are registered for 10 credits in formal courses are expected to undertake two credits in research under their advisors or other approved faculty members. Students registered for nine or more semester hours are billed for full tuition.

Undergraduate Level

Full-time Students. In general, students on the MCV Campus carry more than 15 credits per semester. A minimum of 12 credits per semester constitutes a full-time student load. Students registered for 12 or more credits per semester are billed for full tuition.

Part-time Students. A student is classified as "part-time" if during any semester he or she is registered for less than 12 credits. The term "part-time" applies to degree-seeking students as well as to non degree-seeking ("special") students.

GRADUATION APPLICATION

The university confers degrees in May, August, and December; however, it holds an annual commencement exercise in May only. Each student who expects to complete the degree requirements by the end of a semester or summer session is required to file an application for a degree. Application forms may be obtained from the Office of Registrar Services. Students must submit degree applications to the dean's office of the school in which they are enrolled no later than the dates indicated in the university calendar.

TRANSCRIPTS

The transcript is a copy of the student's permanent academic record. An official transcript carries the university seal. Transcripts given directly to students do not carry the university seal.

Transcripts of student academic records are issued by the Office of the University Registrar only upon the written request of the student. The request should be made at least one week prior to the date needed.

Transcripts cannot be issued during a two week period immediately following semester examinations.

A charge of \$1 will be made for each transcript.

No transcript will be issued unless indebtedness to the university has been satisfied.

Transcript requests signed by the student may be submitted in person or by mail to the Office of the University Registrar, MCV Station, Box 277, Richmond, VA 23298.

WITHDRAWAL FROM THE UNIVERSITY

Voluntary withdrawals from any of the schools or programs must be approved in writing by the dean and by the comptroller; otherwise, a student will not be entitled to honorable dismissal.

Students finding it necessary to withdraw before the end of a semester must complete an official university withdrawal form obtained from the Office of Registrar Services.

For students officially withdrawing from the university before mid-semester (end of the eighth week), the permanent record will indicate a grade of "W" for each course being pursued.

For students officially withdrawing after mid-semester (end of the eighth week) and prior to the last three weeks of class instruction of a semester, the permanent record will indicate grades of "WP" or "WF" assigned by the individual instructors of courses being pursued at the time of withdrawal.

For students withdrawing without permission, the permanent record will carry a notation, "Withdrawn Unofficially," and the grade of "WF" will be assigned for each course pursued at the time of unofficial withdrawal.

TERMINATION OF ENROLLMENT

The university reserves the right to terminate the enrollment of any student for unlawful, disorderly, or immoral conduct, or for persistent failure to fulfill the purposes for which he or she was matriculated. Any student whose relations are so severed forfeits all rights and claims with respect to the institution.

In addition to those standards of conduct described in the *Rules and Procedures of the University* and the *Medical College of Virginia Honor Code*, a student enrolled in MCV/VCU may be dismissed from the school in which he is enrolled for failure to meet academic requirements prescribed by his school or failure to exhibit the attitudes and skills deemed necessary to function within his chosen professional practice. Virginia Commonwealth University recognizes its responsibilities to the health professions and to the consumer of health services. Therefore, any action by a student of MCV/VCU considered to be unprofessional conduct according to the codes of ethics and the laws and regulations governing the student's chosen profession, shall constitute cause for disciplinary action.

Unprofessional conduct includes, but is not limited to:

1. Fraud or deceit in gaining admission to MCV/VCU, i.e., false or obviously misleading representations on the admissions application.
2. An act that violates the established legal standards regarding conduct of one person towards society, i.e., stealing, lying, cheating, and slander.
3. Conviction of a felony involving moral turpitude.

The individual health sciences schools recognize and support the statements set forth by the licensing boards of the respective health professions as they relate to examination, licensure, and the practice of each profession. When applicable, these standards may be used in determining a student's eligibility for continuance in or readmission to MCV/VCU.

LIMITATIONS ON BULLETIN PROVISIONS

All rules and regulations set forth in this bulletin will apply until further notice. The right is reserved to make changes in courses of study, fees, rules and regulations governing the conduct of the work in all schools and programs, faculty and staff, and classification of students whenever university authorities deem it expedient or wise to do so.

Identification of Symbols For Course Listings

I	a course given in the first semester
II	a course given in the second semester
I, II	a course given in each semester
I and II	a course continued through two semesters
S	a course given in the Summer Session
LH	lecture hours per week
Lab H	laboratory hours per week
Cl H	clinical hours per week
CH	clock hours
SH	semester hour credit
PR	prerequisite
CR	corequisite

Abbreviations

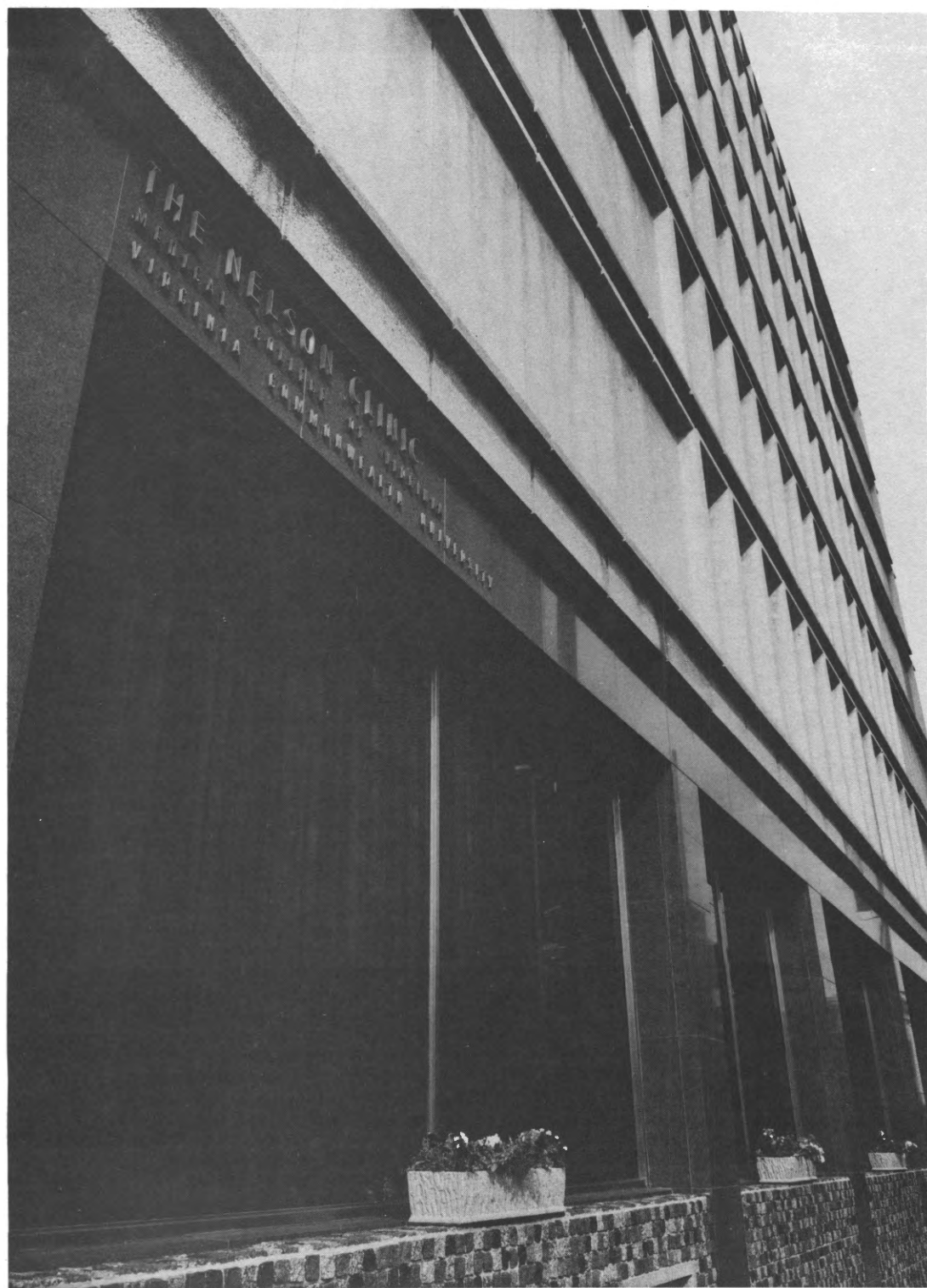
AHP	Allied Health Professions
ANA	Anatomy
BAS	Basic Sciences
BIC	Biochemistry
BIO	Biology
BIP	Biophysics
BIS	Biostatistics
BUS	Business
CMD	Community Dentistry
DEH	Dental Hygiene
DEN	Dentistry
EDU	Education
END	Endodontics
GEN	Human Genetics
GRS	Graduate Studies
GTY	Gerontology
HCM	Health Care Management
HAD	Health Administration
MAT	Mathematics
MED	Medicine
MER	Medical Record Administration

32 General Information

MET	Medical Technology
MIC	Microbiology
NUA	Nurse Anesthesia
NUR	Nursing
OCC	Occlusion
OCT	Occupational Therapy
ORP	Oral Pathology
ORS	Oral Surgery
ORT	Orthodontics
PAC	Patient Counseling
PAT	Pathology
PED	Pedodontics
PER	Periodontics
PHA	Pharmacy

PHC	Pharmaceutical Chemistry
PHT	Physical Therapy
PHP	Pharmacy and Pharmaceutics
PIO	Physiology
PMC	Pharmacology
PSY	Psychology
RED	Restorative Dentistry
REP	Removable Prosthodontics
RTE	Radiologic Technology
SOC	Sociology
SLW	Social Work
STA	Statistics

For other abbreviations, consult the Academic Campus Bulletin.



PART II—School of Medicine

Jesse L. Steinfeld, M.D.

Dean of Medicine

Albert J. Wasserman, M.D.

Executive Associate Dean

Miles H. Hench, Ph.D.

Associate Dean, Admissions

W. Kenneth Blaylock, M.D.

Associate Dean, Graduate Medical Education

John T. Farrar, M.D.

Associate Dean, McGuire Veteran's Administration
Medical Center

Robert B. Scott, M.D.

Associate Dean, Clinical Activities

Reuben B. Young, M.D.

Associate Dean, Continuing Medical Education

Frederick J. Spencer, M.D.

Assistant Dean, Students

Thomas M. Rose, M.S.

Assistant Dean, Finance and Administration

Richard M. Mansfield, Ed.D.

Assistant Professor and Assistant Program Director,
Continuing Medical Education

Paul E. Mazmanian, Ph.D.

Assistant Professor, Continuing Medical Education

Douglas G. Palmore, M.Ed.

Assistant Professor, Medical Education

The School of Medicine had its beginning in the opening of the Medical College of Virginia on November 5, 1838 as the medical department of Hampden-Sydney College.

Full-time clinical faculty were first appointed in 1928, and substantial physical improvements occurred between 1936 and 1941 with completion of the 600-bed West Hospital, A. D. Williams Clinic, and Hunton Hall dormitory. Growth in faculty, students, and facili-

ties resumed after World War II and has continued to the development of today's academic medical center.

Substantial physical improvements are in progress on the MCV Campus with the construction of a new 538-bed MCV hospital (anticipated completion date 1981), along with major renovation of other in-patient and out-patient facilities to be completed by 1983. In addition, ground recently has been broken and construction begun for a new McGuire VA Medical Center which will continue to provide excellent patient care, training, and research opportunities for the School of Medicine through its affiliation programs.

GENERAL INFORMATION

The mission of the School of Medicine is constant improvement of the quality of health care for citizens of the Commonwealth of Virginia, using innovative, scholarly activity to create new knowledge; to provide better systems of medical education, and to develop more effective health-care methods.

The School of Medicine shares the general objectives of the Medical College of Virginia of Virginia Commonwealth University:

1. To maintain an environment of educational excellence that will attract students and faculty interested in an institution maintaining the highest academic standards.

2. To promote an educational atmosphere that will develop in students: (a) desire and interest in lifelong learning, (b) intellectual curiosity, and (c) excellence in skills and knowledge required for the solution of problems of health and disease.
3. To provide standards of clinical practice and scientific investigation that will serve students as examples throughout their professional careers.

The primary aim of the School of Medicine is to provide an academic environment appropriate for the education of its students, including undergraduate medical students and graduate physician house officers, and continuing education directed toward the needs of practicing physicians. In the classroom, laboratory, clinic, and hospital, the faculty and students are brought together in teaching-learning experiences promoting scientific scholarship and personal growth in knowledge and professional skills.

The School of Medicine and its faculty have vested responsibilities for the advancement of knowledge through research and for service to the community through application of skills in health-care leadership and patient care. Therefore, we share with teaching the interdependent and almost inseparable objectives of research and service.

FACULTY AND FACILITIES

The School of Medicine faculty consists of 130 basic scientists, 384 geographic full-time clinicians including affiliates, assisted by 427 interns and residents, and 31 part-time and 503 volunteer clinical faculty. Programs of instruction and research are conducted on campus, at the McGuire Veterans Administration Medical Center, and affiliated hospitals in an effort to expose the student to the variety of clinical disorders encountered in the eastern United States. Those affiliated community hospitals beyond Richmond include: Northampton-Accomack Hospital in Nasawadox, Johnston Memorial Hospital in Abingdon, Petersburg General Hospital in Petersburg, Riverside Hospital in Newport News, and John Randolph Hospital in Hopewell.

ADMISSIONS

The School of Medicine participates in the American Medical College Application Service (AMCAS). The AMCAS application forms can be obtained from AMCAS, Suite 301, 1776 Massachusetts Avenue, N.W., Washington, D. C. 20036. Application request forms are available from premedical advisors in colleges and universities or from the Admissions Office of the School of Medicine.

Application for the School of Medicine should be made on or after July 1 of the year preceding intended matriculation. The closing date for filing applications for this institution is December 1 of the year preceding attendance. Selection priority is given to Virginia residents who constituted approximately 89 percent of the class of 168 students admitted in 1978. Members of minority groups underrepresented in medicine are encouraged to apply.

Applications are reviewed and acknowledged within two working days of the receipt of the completed AMCAS application. Screening review of the AMCAS information is conducted. Nonresident applicants having cumulative science or total grade-point averages of 3.2 or under or less than eight in any part of the MCAT will receive preliminary rejection. Resident applicants in noncompetitive ranges will be informed of that fact.

A nonrefundable \$25 application fee is charged to cover the expense of all applications accepted for further consideration. Supplemental information, including evaluations, will be requested of those individuals. The latest date for returning supplemental information is December 15 of the year preceding attendance.

As a policy, the School of Medicine will not admit students from other health sciences schools at Virginia Commonwealth University until such students have completed the degree program for which they are enrolled.

Through AMCAS, the School of Medicine participates in the Early Decision Program. Further information is available in AMCAS application materials.

This program permits an applicant to file a single application through AMCAS on or after June 15 but prior to August 1. Applicants filing under the Early Decision Plan will receive consideration and a response on or

before October 1. It is required that all applications for the Early Decision Plan be supported by the results of the new MCAT test at the time of application.

The early notification date of candidates on this plan insures that those who may be unsuccessful have ample time to request further distribution of their applications to other medical schools.

Requirements for Entrance

The new MCAT is required as part of the supporting credentials. It is necessary that the test be taken no later than the fall of the year of application since selections will be complete by the time of the spring testing of the year of admission. This test is produced by the American College Testing Program, P.O. Box 414, Iowa City, Iowa 52240, and is administered in colleges and universities throughout the country. Information about the MCAT is available through premedical advisors or directly from the American College Testing Program.

Applicants are occasionally admitted on the basis of 90 semester hours of outstanding achievement; however, the press of students who are completing their baccalaureate programs has limited this selection to a very small number in recent years. The major program for premedical students should be selected in accordance with the individual student's aptitude and interest. Our statements of prerequisites have been reduced to a minimum in order to permit the widest possible latitude in preparation for medical education.

Prerequisites for admission include a minimum of 90 semester hours (or the equivalent) in an accredited college or university. This program of study must include a minimum of:

1. English—two semesters
2. College mathematics—two semesters
3. Biological science (eight semester hours), including laboratory experience. This may be satisfied by general biology, general zoology, or botany. No more than half may be botany.
4. A course in general or introductory chemistry (eight semester hours), including laboratory. An appropriate portion of this requirement may be met by courses in analytical chemistry or physical chemistry.
5. One full course in organic chemistry (six semester hours), including laboratory.

This course should be equivalent to and acceptable for continued studies in a chemistry major.

6. A course in general or introductory physics including laboratory experience (eight semester hours).

It is not recommended that the prospective medical student take courses that will later be offered in medical school. Students are encouraged to pursue their own intellectual interests in college to obtain a maximum of breadth and variety in their education, consistent with their major program. Courses in medically related science areas will not relieve the student of responsibility in the medical curriculum.

In addition to requirements, some recommended courses would include:

(1) Cell biology (molecular biology, cell physiology). Courses in these areas incorporate appropriate content from chemistry and physics in definition of biological phenomena at sub-cellular and molecular levels thereby forming an excellent base for further studies in medicine.

(2) Genetics. The significance of this area of study is constantly growing as our knowledge expands and forms a functional portion of medical knowledge.

(3) Embryology. This area of biology presents aspects of anatomic structure and developmental characteristics at the microscopic level. Courses in embryology, therefore, serve as useful source material in development of the anatomical vocabulary and histological knowledge necessary for a medical student.

(4) Advanced mathematics. The fundamental nature of mathematics as a tool for acquisition and evaluation of knowledge makes it significant in any advanced educational process. Calculus should be included for all students aspiring to medical research.

(5) Behavioral science and psychology. Courses in this area of study serve to increase the understanding of individual and group behavior.

Selection Factors

Demonstrated academic skill and ability, as well as attributes of character and personality, are of significance to the Admissions Committee in the selection process. A review of academic achievement as presented by the

standard academic record and summaries, MCAT scores, evaluations, and interviews are all sources of information on which the comparative evaluation process is based.

Interviews with members of the Admissions Committee are a definite part of the procedure. These are arranged as a stage in the evaluation process at the request of the committee. The interview day is set up as an opportunity for the applicant to become acquainted with the institution and the opportunities it offers and also to supply information for the selection process. It is preferred that interviews take place on campus with members of the Admissions Committee. In instances in which this is difficult or impossible to accomplish, regional interviews may be arranged. It is also possible to have interviews from another medical school transferred in support of the student's application here, should that prove the most convenient mechanism.

Since it is expected that more applicants will be interviewed than can be accepted, appearance for an interview is not an indication of acceptance.

Offers are made, as previously indicated in the early admissions process, on the uniform acceptance date of November 15 and December 15 with rolling admissions thereafter until the class selections have been completed, generally by April of the year of attendance. The alternate list is constituted from selected and notified candidates at the time the class is filled. It is from this group of applicants that replacements are drawn for any vacancies which may occur in the selected class between that time and the third week of attendance.

Since selections are made in advance of actual attendance, all acceptances are made on condition of satisfactory completion of courses planned or in progress. It is expected that candidates will maintain acceptable standards of deportment.

Students offered acceptance into a class are expected to respond within two weeks of that offer. If such a response presents a problem, extension of the time of response should be sought. Enrollment of accepted candidates is considered complete only after payment of the \$100 matriculation fee, \$90 of which represents a deposit against the first tuition payment. This deposit will be returned to the

candidate should withdrawal take place prior to March 1 of the year of attendance.

By the act of matriculating in the School of Medicine, the student accepts the responsibilities attendant upon this opportunity and agrees that during the time he is registered as a student he will follow the rules and regulations established by the governing bodies of the school and of the university.

TRANSFER IN ADVANCED STANDING

Advanced standing admission is open only to students in good standing in WHO recognized American and foreign medical schools. Such individuals must have satisfactorily completed Part I of the National Board of Medical Examiners' examination prior to attendance.

Transfer is accepted only to the third year and on a space available basis to openings created by attrition. Application materials and further information may be obtained by writing to Admissions, School of Medicine, Medical College of Virginia, Virginia Commonwealth University, Box 565, MCV Station, Richmond, VA 23298.

CURRICULUM

The program for the M.D. degree is divided into four phases, each of a year's duration. Medicine I, occupying the first year (August to May), emphasizes normal human structure, function, growth, and development. Medicine II, occupying the second year (August to June), stresses the abnormal. Medicine III occupies the third year (July to July) and consists of clinical education and training. The fourth year (Medicine IV), lasting from July to May, consists of one-half required clinical education and training and one-half electives at MCV/VCU and at approved medical schools elsewhere in the USA and abroad. Elective opportunities are offered also in M-I and M-II.

REGISTRATION IN COURSES OFFERED BY THE SCHOOL OF MEDICINE IS RESTRICTED TO STUDENTS ENROLLED IN THE SCHOOL OF MEDICINE AT THE MEDICAL COLLEGE OF VIRGINIA, VIRGINIA COMMONWEALTH UNIVERSITY.

Medicine I and II

The curriculum is viewed as a dynamic and evolving entity, and course titles, content, or

duration of emphasis may be subject to modification for the sake of improving the learning experience.

The subject matter of Medicine I and Medicine II is divided into body organ systems to permit integration of the basic science disciplines (anatomy, physiology, biochemistry, microbiology, pharmacology, pathology, biostatistics, and biophysics) with one another and with the clinical aspects. Behavioral science, preventive medicine, public health, cardinal manifestations of disease, and physical diagnosis are also taught in M-I and M-II.

In M-I, the organ system subject matters are:

Course	Length
Cell Biology	6 Weeks
Musculo-Skeletal	9 Weeks
Gastrointestinal-Behavioral Sciences	7 Weeks
Cardiovascular	4 Weeks
Renal-Respiratory	3 Weeks
Reticuloendothelial	2 Weeks
Neurosciences	6 Weeks
Endocrine	2 Weeks
Reproduction	2 Weeks

Each subject matter in M-I and M-II is designed and implemented by a faculty committee, and each phase of the curriculum is supervised by a faculty coordinator. In M-III a committee under a coordinator supervises the clinical experiences, and in M-IV there is an electives committee, whose chairman is the M-IV coordinator. Students serve on all committees.

In M-II, the organ system subject matters are:

Course	Length
Infection and Immunity	7 Weeks
Hematology	3 Weeks
Behavioral Science, Autonomic	
Pharmacology, and Preventive Medicine	3 Weeks
Central Nervous System	4 Weeks
Renal	3 Weeks
Respiratory	3 Weeks
Cardiovascular	4 Weeks
Gastrointestinal	4 Weeks
Endocrine	3 Weeks
Reproduction	3 Weeks
Musculo-Skeletal	4 Weeks

Medicine III

The class is divided into 12 sections, each of which spends three months on internal medicine, two months on surgery and other surgical specialties, two months on pediatrics, six weeks on psychiatry, six weeks on obstetrics

and gynecology, four weeks in a community hospital, and four weeks on neurosciences.

Medicine IV

The School of Medicine, in an effort to serve best the needs and goals of the individual student, offers M-IV students the option of choosing electives during one-half of their senior year. The elective curriculum has been arranged primarily to allow those students who have definite goals to pursue them logically without adherence to a required curriculum. At the same time, it allows those who have not yet defined their goals an adequate assortment of electives with which to explore career options. Where standard elective choices seem too limiting, students are encouraged to approach individual faculty members relative to the development of unique courses that more closely approach individual needs.

The year is divided into nine four-week periods, four of which must be served in the following required rotations: emergency room, adult primary ambulatory care, radiology, and a combination of cardio-pulmonary clinical lectures and ophthalmology and otorhinolaryngology clinics.

A new electives catalog is published each year.

Internship Program—First-Year Post M.D. Clinical Training (Medicine V)

Approved first year post M.D. categorical training (with some flexibility) in surgery, obstetrics-gynecology, psychiatry, and anesthesiology and categorical positions in family practice, medicine, surgery, pediatrics, pathology, and radiology are offered. Regularly scheduled clinical rounds, clinical pathologic conferences, inpatient and outpatient experience, and systematic rotation through services are included in the various internship programs.

For further information and a program booklet, write Associate Dean for Graduate Medical Education, School of Medicine, Medical College of Virginia, Virginia Commonwealth University, MCV Station, Box 257, Richmond, VA 23298.

RESIDENCY PROGRAMS

A period of clinical experience in the specialty elected is a requirement for certification

by the American Board of Medical Specialists. To assist the physician in meeting such requirements, approved residency training programs are offered. Post-graduate medical programs are offered in: anesthesiology, dermatology, family practice, internal medicine, neurology, neurosurgery, obstetrics and gynecology, ophthalmology, otolaryngology and rhinology, pathology, forensic pathology, pediatrics, pediatric allergy and immunology, pediatric cardiology, pediatric hematology and oncology, pediatric neurology, physical medicine and rehabilitation, public health and preventive medicine, psychiatry, radiology, diagnostic radiology, therapeutic radiology, nuclear medicine, surgery, oral surgery, orthopedic surgery, plastic surgery, urology, and thoracic surgery.

For further information contact the Associate Dean for Graduate Medical Education, School of Medicine, Medical College of Virginia, Virginia Commonwealth University, MCV Station, Box 257, Richmond, VA 23298.

CONTINUING EDUCATION

Mission Statement

The primary goal of the Department of Continuing Medical Education at MCV/VCU is to provide educational experiences specifically designed to assure the delivery of high quality patient care by physicians and other health care professionals in Virginia and other states. The philosophy of the department is couched in the belief that learning must be viewed as a lifelong process. A generation ago the graduating physician was able to look upon an acquired knowledge base as a reasonably stable resource for practicing medicine. However, today's rapidly shortening life of scientific information forces a continuing learning effort upon the physician. Undergraduate and graduate medical education alone can no longer offer reasonable assurance, if indeed they ever could, that practitioners are armed with the knowledge, attitudes, and skills that will enable them to render optimal, achievable patient care throughout their careers. Continuing education is now linked with undergraduate and graduate education to complete the continuum of medical education.

The goal and philosophy stated herein undergird and lend direction to the efforts of the

Department of Continuing Medical Education as it engages in a diversity of educational and education related activities. Specifically, the Department of Continuing Medical Education works in concert with the faculty of the School of Medicine as well as other individuals and organizations as appropriate, to:

1. Conduct research to improve the process of continuing medical education.
2. Develop and deliver a series of short courses for physicians and other health professionals.
3. Coordinate a state-wide outreach continuing medical education program for several networks of affiliate hospitals.
4. Provide electives designed to establish lifelong learning habits in undergraduate medical students.
5. Provide learning experiences for health consumers designed to facilitate appropriate utilization of the health care system.
6. Administer the Quality Assurance Program for the Medical College of Virginia Hospitals.

Fostering an appreciation for the concept of lifelong learning in undergraduate and graduate medical school programs is a challenge that is now being confronted by medical schools throughout the nation. During these critical years the attitudes of medical students toward continuing pursuits of learning are molded and developed. In order to encourage undergraduate and graduate students at the Medical College of Virginia to embrace the concept of lifelong learning, the Department of Continuing Medical Education actively seeks their involvement in the various programs and activities developed under its aegis. Brochures, posters, and a yearly catalogue are utilized to announce pending events.

Further information may be obtained by writing the Assistant Dean for Continuing Medical Education, School of Medicine, Medical College of Virginia, Virginia Commonwealth University, MCV Station Box 48, Richmond, VA 23298.

ANNUAL LECTURESHIPS

The Department of Pediatrics sponsors annually a one-day medical education program and lectureship in honor of the late Dr. Lee E. Sutton, Jr., who was chairman of the depart-

ment from 1938 to 1958 and dean of the medical school from 1929 to 1942.

The annual **Student Honors Day** sponsored by the American Medical Student Association and Alpha Omega Alpha, has been designated **Kinloch Nelson Medical Student Honors Day** as an expression of appreciation for the leadership Dr. Nelson provided during his tenure as dean of the School of Medicine from 1963 to 1971.

The **Sanger Lecture** was established and endowed by the late Dr. Harvey B. Haag, professor and chairman of the Department of Pharmacology and dean of the School of Medicine from 1947 to 1951, as a tribute to Dr. William T. Sanger for his dedication and service to the institution. Dr. Sanger served as president of MCV from 1925 until 1956, chancellor from 1956 to 1959, and chancellor emeritus from 1959 until his death in 1975. The lectureship annually offers topics of current interest in the area of science and religion to MCV/VCU and the Richmond community.

The annual **Charles W. Thomas Lectureship** was begun in 1971 in honor of Dr. Thomas whose bequest of one million dollars led to the establishment of the Charles W. Thomas Foundation for research and education in the area of arthritis, a disease from which he suffered. A graduate of the Medical College of Virginia, Class of 1903, Dr. Thomas was a native of Patrick County, Virginia and practiced medicine in the state for over fifty years.

In 1973, former residents in obstetrics and gynecology from the Medical College of Virginia, through their organization, the H. Hudnall Ware, Jr. Society, established the **H. Hudnall Ware, Jr., Visiting Professorship** in honor of H. Hudnall Ware, Jr., M.D., who was professor of obstetrics and gynecology from 1942 to 1967. The visiting professorship is combined with a two-day postgraduate continuing education program which provides information regarding recent advances in obstetrics and gynecology.

The **John Hoover Moon Memorial Lectureship** was established in 1972 as a tribute to John Hoover Moon, M.D., professor of medicine, for his outstanding contribution to teaching and research. A graduate of the School of Medicine, 1949, he was the first clinical research fellow in the Division of Hematology.

His research interests centered around the chemotherapy of malignant disease. The John Hoover Moon Memorial Foundation makes this annual lectureship possible.

COMBINED M.D. AND M.S. OR PH.D. PROGRAMS

The integrated medical curriculum, with free time for elective courses and research, provides an opportunity for interested medical students to enter a combined M.D./M.S. or Ph.D. program.

For details, see the section on graduate studies, page 109.

GRADING AND PROMOTIONS

Each student's progress toward his objectives is evaluated in the laboratory, on clinical services, by examination upon each subject matter, and by comprehensive or national board examinations at appropriate times. Grades are assigned on the honors, pass, marginal, or fail basis. Marginal and failing students are counseled frequently. All students are assigned a faculty advisor. This advisor is available to the student throughout his four years.

At the close of each academic year the Promotions Committee, composed of chairmen of departments, recommends to the dean which students have achieved the objectives of the year and are qualified for either promotion or graduation. The Promotions Committee is charged to give careful individual attention to all aspects of student achievement, effectiveness, behavior, and attitude. The committee is charged not to promote any student who has failed to meet the requirements of the preceding year, or who appears unfit for the practice of medicine. When the committee determines by majority vote that a student will not be promoted, it then recommends *either that the student repeat the year (or particular course(s)) or that the student be dismissed from the medical school*. The dean promptly notifies students that they have been promoted, must repeat a year, or have been dismissed. A student dismissed by the Promotions Committee may apply to the dean's office for the privilege of repeating the year in which he failed.

WITHDRAWAL

A student may not leave school prior to completion of an academic year unless granted leave of absence by the dean for temporary disability. A student who leaves without such permission or who fails to return by the end of his granted term of leave, is considered dismissed from his class and may return only by applying for possible readmission.

REQUIREMENTS FOR GRADUATION

The degree of Doctor of Medicine will be conferred by Virginia Commonwealth University upon candidates who, in the opinion of the medical faculty, have:

1. Attained the school's educational objectives as evidenced by satisfactory completion of prescribed courses and examinations, by proven clinical skills, responsibilities, and ethical standards;
2. Attended the School of Medicine, Medical College of Virginia, for a minimum of two years, one of which must be an academic year of clinical rotations; and
3. Discharged all financial obligations to the school.

It is anticipated that almost all students will meet these requirements at the end of a four-year period. It is recognized that some students may take longer, and their cases will be considered individually. It is also recognized that a very small number of students may be capable of meeting these requirements in three years. Their cases will be individually considered.

It is the policy of the School of Medicine that candidates must be present at commencement exercises unless excused by the dean.

STUDENT PARTICIPATION

The dean and faculty solicit the advice of students in conducting the affairs of the medical school. Student officers elected by their classes meet for dinner quarterly with deans and curriculum coordinators. At these meetings each phase of the curriculum and any other matters of concern to students are discussed in detail. Each class also elects representatives to the faculty committees which design its curriculum. Students are selected by the dean and the faculty to serve on the Admissions Committee, on faculty tenure committees, and on committees to recom-

mend appointment of deans. A continuing effort is made to improve methods for student evaluation of teaching technique. All students are welcome to visit the deans, teachers, and faculty advisors at any time to volunteer opinions or seek explanations of procedures employed by the school.

STUDENT FELLOWSHIPS

Opportunities are available for study and investigation under the tutelage of faculty members in their laboratories during the summer vacation and as an extracurricular activity during the school year.

These are supported by the A. D. Williams fellowship endowment (selections are made by the A. D. Williams Committee on the recommendation of the Institutional Research Advisory Committee) and by project grant funds (selections are made by the principal investigators).

The Robert C. Bryan Summer Fellowship in Pathology has been given by Mr. Jonathan Bryan in memory of his father.

The Arthur T. Lyman Fellowship in pathology is awarded to an outstanding student participating in the summer fellowship program. This represents a gift from Mrs. Fairfield Goodale in memory of her father who, though a layman, had considerable interest in medical education. The recipients of these fellowships are chosen by the Department of Pathology.

FINANCIAL ASSISTANCE

A brief description of financial aid based on demonstrated need is contained in Part I of this bulletin. Financial need-based aid programs available to medical students include Health Professions Student Loan, National Direct Student Loan, State Family Medical Scholarship, Norfolk Foundation Scholarship, Lincoln/Lane Foundation Scholarship and various institutional loans and grants.

Information on the State Family Medical Scholarship may be obtained from the School of Medicine; information on the other programs is available from the MCV Financial Aid Office.

National Health Service Corps Scholarship

The U.S. Public Health Service provides for up to four years' paid tuition and fees, book

and supplies allowance and a monthly stipend of about \$400 in exchange for fulltime clinical practice in the National Health Service Corps. Normally the recipient serves one year for each year of scholarship, with a minimum of two years. Selections will be made by NHSC prior to August 1. For current information, write:

NHSC Scholarship Program, Center Building, Room 5-44, 3700 East-West Highway, Hyattsville, Maryland 20782. Telephone inquiries may be made via the toll free number, (800) 638-0824.

U.S. Armed Forces Scholarships

The Army, Navy, or Air Force provides up to four years of paid tuition and fees, book and supplies allowance and about \$400 per month stipend in exchange for military service after graduation. Normally the recipient serves one year on active duty for each year of scholarship, with a minimum of three years. Additional information may be obtained from local armed services recruiting offices.

HONORS AND PRIZES

Student research and honors day is held in May. Begun by the American Medical Student Association, it is now a joint effort of that organization, the Alpha Omega Alpha honorary scholarship fraternity, and the medical school.

Honors and prizes in the medical school are:

Alpha Omega Alpha. The Brown-Sequard Chapter, established at MCV in 1940, elects to membership each year senior and junior students who have demonstrated outstanding academic achievement.

Sigma Xi. Seniors of high scholastic achievement, who show promise of success in research, may be elected to associate membership in the VCU chapter of this national honorary scientific society.

Sigma Zeta. Outstanding members of the junior and senior classes of the Schools of Medicine, Dentistry, Pharmacy, and Nursing are elected to this honorary scientific society.

L. Beverley Chaney Scholarship. For responsible leadership during the first three years of medical school, a senior scholarship of \$1,500 from the Joseph Collins Foundation in memory of its trustee, Dr. Chaney, who

graduated from the School of Medicine in 1918.

Merck Company Foundation Scholarships. Eight scholarships of approximately \$1,000 awarded by the Merck Company Foundation to junior students with superior academic performances.

The Upjohn Prize. A plaque and \$150 awarded by the Upjohn Company to the senior student chosen by his classmates as the most outstanding in scholarship and leadership.

The Roche Prize. An Omega watch to the student achieving the highest score on Part I of National Board Examinations.

William Branch Porter Stethoscope. A silver replica of the stethoscope given by Sir Thomas Lewis to Dr. Porter, professor of medicine from 1928 to 1956, is awarded to a senior student for outstanding achievement in internal medicine.

Isaac A. Bigger Medal. A medal awarded annually to a surgical resident for integrity, leadership, teaching, and clinical ability, in memory of Dr. Bigger, professor of surgery from 1930 to 1955.

Lee E. Sutton, Jr., Prize. Awarded to a senior student for excellence in pediatrics, in memory of Dr. Sutton, professor of pediatrics from 1938 to 1958, and dean from 1929 to 1942.

Robert C. Bryan Prize. For excellence in sophomore pathology, an annual award of \$50 in memory of Dr. Bryan, professor of urology from 1917 to 1934.

Aubrey H. Straus Prize. For excellence in sophomore microbiology, an annual award of \$75 in honor of Dr. Straus, assistant professor of microbiology from 1909 to 1924.

Hjalmar L. Osterud Prize. For excellence in freshman anatomy, \$75 awarded annually to a medical or dental student in memory of Dr. Osterud, professor of anatomy from 1922 to 1953.

Outstanding Pathology Graduate Student. A prize of \$125 is awarded to the pathology graduate student showing the most promise of success in research.

Departments and Divisions of Instruction

DEPARTMENT OF ANESTHESIOLOGY

Professors: Boyan (Chairman); Jones, Keenan; Muren; Rafii; Schettini
 Clinical Professors: Chun; Pemberton
 Associate Professor: Egbert
 Associate Clinical Professor: Harris, C.
 Assistant Professors: Aghdami; Chen; Kallar; Rah; Salomonsky; Singh
 Assistant Clinical Professors: Chu; Perera
 Clinical Instructors: Hranowsky; Morgan

DEPARTMENT OF DERMATOLOGY

Professors: Blaylock (Chairman); Rothberg
 Clinical Professors: Manson; Murrell; Pepple; Scoggins; Trice
 Associate Professor: Jordan, W.P.
 Associate Clinical Professors: Booth; Caravati; McMullan;
 Assistant Professor: Abell
 Assistant Clinical Professors: Hudgins; Kelly; Reams
 Clinical Instructors: Blackmore; Fohl; Young, E.
 Lecturer: Murray

DEPARTMENT OF FAMILY PRACTICE

Professors: Mayo (Chairman); Kilpatrick; Marsland; Wood, M.
 Clinical Professor: Harris, J.L.
 Associate Professor: Jacoby
 Associate Clinical Professors: Charlton; Delsordo; Devlin; DeWitt; Gilliam; Harris, A.; Harris, J.S.; Kelsey; Mapp; Mitchell; Overton; Quinnell; Smith, R.; Stallings; Temple; Vickery; White
 Assistant Clinical Professors: Buston; David; Gill; Kentigh; Kraus; Layman; Norfleet; Oglesby; Owen, J. T.; Royal, F.; Skaggs; Sutton; Weger; Wise; Youngblood; Zakaib

DEPARTMENT OF LEGAL MEDICINE

Professor: Wiecking (Chairman)
 Assistant Professors: Angel; Fierro; Valentour
 Lecturers: Crews; Handcock; Page; Presswalla; Russell; Scott, R.C.; Thornhill

DEPARTMENT OF MEDICINE

Professors: Fallon (Chairman); Blackard; Duma; Eckberg; Falls; Farrar; Goldman, I.D.; Irby, W.R.; James, G. W., III; Kelly, J.J., III; Kontos; Lurie; Makhlof; Mauck, H.P.; Mellette; Moore, E.W.; Mullinax; Muren; Nance; Oken; Owen; Patterson; Porter; Raper; Regelson; Richardson; Romhilt; Ruddy; Scott, R.B.;

Shadomy, S.; Sharpe; Steinfeld; Swell; Taub; Toone; Tucker, St.G.; Vlahcevic; Waller; Wasserman; Watlington; Weglicki; Zfass

Clinical Professors: Blanton; Freund; Klein; O'Brien

Adjunct Research Professor: Worsham

Visiting Professor: Weise

Associate Professors: Archer; Brummer; Cooke; Dabney; Glauser; Guzelian; Haden; Hassan; Hess; Kirschbaum; Landwehr; Hassan; Millen; Pears; Proctor; Shadomy, H.; Stacy; Switz; Wampler; Weir; Witherspoon; Wingo; Zieve
 Associate Clinical Professors: Bernart; Blount; Burton; Clark, F.A., Jr.; Greenberg; Holland; Kay; Kemp; Kuperminc, M.; McCue, H.; McGehee; Owens; Smith, W.K.; Sutphin; Temple; Thomas

Assistant Professors: Arthur; Barrett; Burke; Clark, M.; Cowley; Diasio; Duarte; Doyle; Evans; Fairly; Flaherty; Fratkin; Freedlender; Fussell; Gardner; Hastillo; Hood; Hornbuckle; Jacobson; Lamb; Lewis, T.; Link, K.; Littman; Markowitz; Mathers; May; Mayhall; Mohanty, P.; Moore, R.P.; Morahan; Morley; Quinn; Qureshi; Robinson; Sagar; Schwartz; Smith, W.K.; Steinke; Tucker, H. St.G., III; Vetrovec; Yanovich; Yoe

Assistant Clinical Professors: Bates; Baylor; Becker; Bedinger; Black; Burke; Catlett; Chremos; Deep, W.D.; Dunnington, G.; Fitzgerald; Goldman, S.A.; Grinnan; Halloran; Harris, W.H., Jr.; Hughes, D.; Koller; Levy; MacMillan; Martin, W.W., Jr.; Mathews, E.C.; Mathews, E.C., Jr.; Miller, G.; Miller, M.J.; Morey; Nuara; Reed; Speckhart; Sporn; Stevens; Thornton; Titus; Vaughan; Weisiger; Williams, R.O.; Zacharias, C.

Clinical Associates: Bailey; Budd; Buis; Bullock; Dingledine; Hecht; Irby, E.C.; Markham; McEntee; McKeown; Mitchell, R.E., Jr.; Pollock; Regan; Rose; Tabor; Wingfield

Instructors: Brown, W.M.; Carithers; Cox; Dunnington, J.; Fairman; Hagneghard; Lewis, S.A.; Mayfield; Nisman Polk; Rutherford; Stewart; Tenenbaum; Thompson; Wheeler; White
 Clinical Instructors: Ansell; Ashworth; Davis, T.D., Jr.; Elliott; Frederick; Gayle, S.W.; Glazier; Hall; Key; Kroll; Longacher; Newman; Nottingham; Parker; Pollock; Pritchard; Smith, R.; Tucker, S.C.; Tucker, W.T.; Wickham; Wootton; Zacharias, L.

Division of Cardiopulmonary Laboratories and Research

Professors: Kontos (Chairman); Mauck, H.P.; Patterson

Adjunct Research Professor: Worsham

Division of Cardiovascular Disease

Professors: Richardson (Chairman); Eckberg; Porter; Raper; Romhilt
Associate Professors: Hassan; Hess
Assistant Professors: Cowley; Hastillo; Quinn; Robinson; Sagar; Steinke; Vetrovec
Instructors: Brown, W.M.; Cox; Fastabend; Hagnahdar; Rutherford

Division of Clinical Pharmacology

Professor: Wasserman (Chairman)
Associate Professor: Proctor
Assistant Professor: Evans

Division of Endocrinology and Metabolism

Professors: Blackard (Chairman); Sharpe; Tucker, St.G.; Watlington
Associate Professors: Fratkan; Weir; Zieve
Assistant Professor: May

Division of Gastroenterology

Professors: Farrar; Makhlof; Moore; Swell; Vlahcevic; Zfass
Associate Professors: Guzelian; Switz
Assistant Professor: Schwartz
Instructors: Carithers; Nisman

Division of Hematology

Professors: James, G.W., III; Scott, R.B.
Associate Professors: Dabney; Haden
Assistant Professors: Flaherty; Qureshi; Tucker, St. G., III
Instructor: Nayfield

Division of Immunology and Connective Tissue Disease

Professors: Ruddy (Chairman); Irby, W.R.; Kelly, Mullinax; Owen; Toone; Waller
Associate Professor: Cooke
Assistant Professor: Littman
Instructor: Wheeler

Division of Allergy and Infectious Disease

Professors: Duma (Chairman); Shadomy, S.
Associate Professors: Archer; Brummer; Shadomy, H.;
Assistant Professors: Jacobson; Markowitz; Mayhall
Instructor: Tenenbaum

Division of Medical Oncology

Professor: Taub (Chairman); Mellette; Regelson; Steinfeld
Associate Professors: Wampler
Assistant Professors: Diaso; Hornbuckle; Smith, W.K.; Yanovich

Division of Pulmonary Disease

Professor: Muren
Associate Professors: Glauser; Millen; Wingo
Assistant Professors: Burke; Fussell; Hood; Mathers; Mohanty, P.; Moore; Morley; Yoe
Instructor: Fairman

Division of Renal Disease

Professors: Oken (Chairman); Falls
Visiting Professor: Weise
Associate Professors: Kirschbaum; Landwehr; Stacy
Assistant Professors: Freedlender
Instructor: Dunnington, J.

DEPARTMENT OF NEUROLOGY

Professors: Suter (Chairman); Harbison
Clinical Professors: Rennie; Tucker, W.M.
Visiting Professor: Papadopoulos
Associate Professors: Calabrese; Myer; Selhorst; Taylor
Associate Clinical Professor: Richards
Assistant Professors: Brush; Howell; Isrow; McGee; O'Bannon; Ochs; Pellock; Vines; Waybright
Assistant Clinical Professors: Harrelson; Harris, W.O.; Isaacs
Clinical Instructor: Atkinson

DEPARTMENT OF OBSTETRICS AND GYNECOLOGY

Professors: Dunn (Chairman); Board; Brown, J.; Hurt;
Associate Professors: Goplerud; Kumarasamy; Petres
Associate Clinical Professors: Claiborne; Jones, G.R.
Assistant Professors: Bhatnagar; Borchert; Fantl; Redwine
Assistant Clinical Professors: Howren; Moore, W.T.; Williams, L.H.
Clinical Instructors: Battista; Boone; Brooker; Crooks; Deep, A.; Feore; Fierro, R.J.; Fitzhugh; Forrest; Hamilton; Johnson; Kirby; Minor; Montague, D.; Moore, C.; Oppenheimer; Partridge; Prysak; Rabhan; Royal; Ware, H.H., III; Winston

DEPARTMENT OF OPHTHALMOLOGY

Professors: Ferry (Chairman); Guerry, D.; Harbison; Madge; Nooney
Clinical Professors: McNeer, K.; Smith, M.; Weisinger
Associate Professor: Geeraets
Associate Clinical Professors: King, R.G., Jr.; Mayer; Romaine; Sheppard; Stratford.

Assistant Professors: Abedi; Gillespie; Selhorst; Weinberg
 Assistant Clinical Professors: Blair; Brown; Bunting; Caldwell; Davis, F.S.; Gazala; Guerry, R.; Martin, B.H., Jr.; Morgan; Rusher; Waddell; Wyatt
 Instructor: Porter, E.
 Clinical Instructors: Harkrader; Heyner; Jacey; MacMillan; McNeer, P.; Sakowski; Smith, L.T.; Svoboda, Volk

DEPARTMENT OF OTOTOLOGY, RHINOLOGY, AND LARYNGOLOGY

Professor: Williams (Chairman)
 Clinical Professors: Hayden; Smith, M.P.;
 Associate Professors: Flowers; Frable, M.A.; Lenhardt
 Associate Clinical Professor: Cross
 Assistant Professors: Abedi, E.; Butts; Harris, A.
 Assistant Clinical Professors: Atiyeh; Gill, J.A.; Hulcher; LaPrade; Middleton; Montague; Shaia
 Clinical Instructors: Archer; Clarke; Dimacali; Dodd; Fischer; Hecker; Isaac; Kreisler; Wilkes
 Clinical Associate: Creech

DEPARTMENT OF PATHOLOGY

Professors: Vennart, (Chairman); Allison; Blanke; Dalton; Draper, D.; Duma; Dutz; Elzay; Escobar; Fisher; Frable, W.; Gander; Gerszten; Gruemer; Hench; Hossaini; James, G.W., III; Johnston; Kay; Lurie; Madge; Monroe; Moore; Rosenblum; Salley; Santos; Schatzki; Scott; R.B.; Shiel; Still; Wiecking
 Clinical Professors: Borland; Carroll; Faulconer; Hart; Kohout; Russi; Thornton
 Associate Professors: Ghatak; Hadfield; Hard; Lim; Moncure; Nakoneczna;
 Associate Clinical Professors: Beck; Briere; Clark, R.F.; Goodwin; Griffin; Hershberg; Kramer; McGehee; McMullan; Pearce
 Assistant Professors: An; Cross; Fierro; Griffith; Loria; Lynch; Mayhall; Miller; Qureshi; Schneider; Sharp
 Assistant Clinical Professors: Hoke; Pinto; Smith, G.E., Jr.; Snell; Thomas, C.; Thomas, G.
 Instructor: Mohanty, L.
 Clinical Instructors: Brown; Gutierrez; Jain; Kipreos, B.E.; Rhoads; Sylvest

Division of Academic Pathology

Professors: Gander; Gerszten; Lurie; Madge; Monroe; Shiel; Still
 Associate Professors: Hard; Moncure; Nakoneczna
 Assistant Professor: Cross

Division of Clinical Pathology

Professors: Vennart (Chairman); Allison; Blanke; Dalton; Escobar; Fisher; Gruemer; Hench; Hossaini; Johnston; Moore; Santos; Young, N.
 Associate Professor: Lim
 Assistant Professors: Griffith; Lynch; Miller
 Instructor: Mohanty, L.

Division of Neuropathology

Professor: Rosenblum
 Associate Professors: Ghatak; Hadfield

Division of Surgical Pathology

Professors: Kay; Dutz; Frable, W.; Schatzki
 Assistant Professor: An

DEPARTMENT OF PEDIATRICS

Professors: Maurer (Chairman); Chan; Draper, D.A.; Hazra; Kendig; Mauck, H.P.; Mamunes; Marsland; McCue, C.; Miller; Nance, Ownby; Salzberg; Young
 Clinical Professor: Bundy
 Associate Professors: Berman; Bright; Bruch; Campbell; Garretson; Kirkpatrick; McWilliams; Robertson; Spencer, W.P.; Zanga
 Associate Clinical Professors: Arnold; DeWitt; Edmonds; Hudgens; Massie
 Assistant Professors: Eanes; Kellett; Lovinger; Mickell; Mueller; Rodriguez; Russell; Snead; Wolf
 Assistant Clinical Professors: Andrews; Blumberg; Burch; Chalkley; de la Burde; Herman; Hoffman, R.; Hunt; Jaffee; Johnston; Kannan; Leverly; Moore, F.P.; Overton; Pinkerton; Prince; Rahal; Sakhadeo; Solomon; Weinstein; Wells
 Clinical Associates: Curry; Davis, E.G., Jr.; Dwyer; Fidler; Lindemann; Thompson; Wilkerson
 Clinical Instructors: Abernathy; Alpern; Andrako, J.D.; Austein; Austin; Barringer; Bones; Hanzel; Jamison; Jones, J.; Kern; King, A.; Kirchmier; Kuperminc, Lee, R.M.; Lum; Mollen; Rivadeneira; Robinson; Skolnick; Wiley

DEPARTMENT OF PREVENTIVE MEDICINE

Professors: Spencer, F.J. (Chairman); Jessee
 Clinical Professor: Nemuth
 Associate Professors: Brummer; Moore; Peoples
 Clinical Instructors: Kenley; Price; Wood, R.
 Lecturers: Graham; Harton; Hays; Shanholtz

DEPARTMENT OF PSYCHIATRY

Professors: Arginteanu; Friedel (Chairman); King, L.J.; McClure; Narasimhachari

Clinical Professors: Bowen; Clower; Foster; Kriegman, G.; Silberman

Associate Professors: Batchelder; Butcher; Draper, W.; Finch; Griffin; Harris, L.M.; Mullaney; Resnick; Schumann

Associate Clinical Professors: Brooks, G.K.; Christian; Friedenber; Funkhouser; Gomez; Hauser; Longan; McDonough; Meiller; Merker; Schmidt; Silverman, G.; Williams, R.K.

Assistant Professors: Edwards; Ettigi; Falck; Gleason; Hart; Hoffman; Kemp, S.R.; Parham; Peed; Reid; Rosenthal; Shenoy; Silverman, J.J.; Snead; Tilley; Tomsich; Weber

Assistant Clinical Professors: Armstrong; Barnes; Blankenship; Boettcher; Carter; Centor; Cooke, J.K.; Erfe; Fisher, D.G.; Garcia; Haun; Holland, H.; Hulbert; Johnson, M.A.; Jones; Kriegman, L.; Lindemann; Makarowsky; Masri; Schulman; Shield; Sormus; Tingley; Vitols, M.; Wouters

Clinical Associates: Coates; Saunders

Instructors: Adkins, Bloom; Christian, C.; Feuer; Hudson; Johnson

Clinical Instructors: Howerton; Kernodle; Master; McCrerey; McLaughlin; Nelson, B.W.; Nemuth, P.; Nunez; Russell; Sebben; Spector; Vitols, E.; Vogel; Zaller

Division of Child Psychiatry

Associate Professor: Draper, W. (Chairman); Batchelder; Finch; Griffin

Assistant Professors: Edwards; Kemp; Parham; Reid; Snead; Tomsich

Instructor: Stauffer

Division of Clinical Psychology

Professor: Arginteanu

Associate Professors: Resnick; Schumann

Assistant Professors: Hart; Peed

Instructors: Bloom; Christian, F.

Division of Consultation/Liason Psychiatry

Assistant Professor: Silverman, J. (Chairman)

Instructor: Joseph

DEPARTMENT OF RADIOLOGY

Professors: Beachley (Chairman); Hazra; Hutton; King, E.R.; Lurie; Merz; Neal; Nooney; Rao, G.; Sharpe; Vines; Yaghmai

Clinical Professor: Cimmino

Associate Professors: Belgrad; Brower; Eisenberg; Fields; Floyd; Fratkin; Goodman; Haden; Hirsch; Kishore; Kodroff; Montour; Strash; Wilson

Associate Clinical Professors: Fitch; Howell; Lunden; Myles; Rogers; Talley; Vinik; Walker

Assistant Professors: Amendola; Bosch; Brewer; Broga; Burke, A.W.; Cho; Fatouros; Hawkins; Henry; Howells; Kan; Kirschner; Konerding; Lipper; Rao; Shirazi; Tatum; Tisnado; Turner; Ulbrich; Walsh; Woodlief

Assistant Clinical Professors: Bredrup; Cabrera; Calkins; Faunce; Galston; Hager; Hughes; King, D.; Roberts; Savage; Southworth; Theus

Instructor: Bradshaw; Lara

Clinical Instructors: Calvalcanti; Spencer, H.S.; Wassum; Winkler

Division of Diagnostic Radiology

Professors: Vines (Chairman); Beachley; Hutton; Neal; Yaghmai

Associate Professors: Brower; Eisenberg; Fields; Floyd; Goodman; Haden; Kishore; Kodroff

Assistant Professors: Amendola; Bosch; Brewer; Hawkins; Henry; Kirschner; Konerding; Lipper; Rao; Shirazi; Tisnado; Turner; Ulbrich; Walsh; Woodlief

Instructors: Bradshaw; Lara

Division of Nuclear Medicine

Professor: Sharpe (Chairman)

Associate Professors: Fratklin; Hirsch,

Assistant Professor: Tatum; Zelenak

Division of Radiation Physics

Professors: Rao, G. (Chairman); Nooney

Associate Professor: Strash

Assistant Professors: Broga; Fatouros; Howells; Kan

Division of Radiation Therapy and Oncology

Professors: Hazra (Chairman); King, E.R.

Associate Professor: Belgrad

Assistant Professor: Burke, A.W.

Division of Radiobiology

Professor: Merz (Chairman)

Associate Professors: Montour; Wilson

DEPARTMENT OF REHABILITATION MEDICINE

Professor: Griffith (Chairman); Mellette

Clinical Professor: Park

Associate Professors: Cohen; LaFratta; Zalis, A.

Assistant Professors: Diehl; Lamb; Rosenthal

Instructors: Bayer; Chen; Kallar, B.S.

Clinical Instructor: Decker

DEPARTMENT OF SURGERY

Professors: Greenfield (Chairman); Banks; Barnes; Bear, E.; Becker; Bosher; Brooks, J.W.; Cohen; Harbison; Haynes; Horsley; Kaplan, A.;

Koontz; Lawrence; Lee, H.M.; Lower; McGuire; Miller; Newsome; Salzberg; Smith, M.J.V.; Terz; Theogaraj; Ulmer; Young, H.

Clinical Professors: Carpenter; Clary; Coleman, C.L.; Coxé; Deyerle, Gwathmey; Hill; Hoover; Johns, T.; Markowitz, M.; Smith, L.; Troland; Williams, C.; Zimberg

Associate Professors: Cardea; Fonseca; Hackler; Maull; Mohanakumar; Selhorst; Sullivan; Texter; Thomas, F.; Thomas, J.

Associate Clinical Professors: Bryson; Butterworth, R.D.; Carter; Coleman, C.C.; Conquest; Davis, R.K.; Dodson; Harrison; Hill; McDowell; Mullen; Natvig; Oates; Pancoast; Reid; Royster; Terrell; Ware, J.L.; Williams, A.M.

Assistant Professors: Adelaar; Blievernicht; Diegelmann; Greenberg; Griffith; Halloran; Lang; Mendez-Picon; Merritt; Neifeld; Rosner; Silverman, J.; Sugarman; Szentpetery; Ward; Wood

Assistant Clinical Professors: Atwill; Banner; Beazley; Blades; Brown, P.; Butterworth, J.F.; Butterworth, T.R.; Cherry; Crouch; Dalton; Darden; Drummond; Eagles; Gayle, W.; Hakala; Hutcher; Jackson; Kell; Kendrick; Knaysi; Mauck, W.R.; May; Nachman; Nevin; Olshansky; Packer; Petty; Pole; Poulos; Rawls; Riley; Robertson; Rowe; Singer; Talman; Tunner; Wright; Yancey

Clinical Associates: Byrd; Gianoulis; Herring; Jones, W.R., Jr.; Peple

Clinical Instructors: Bigley; Boone; Boyer; Carigan; Caspari; Christie; Clements; Concodora; Crosier; Daniel; Davidson; Feminella; Frederick; Gaertner; Haines; Henceroth; James, C.M.; Johnson, G.W.; Johnstone; Lublin; Macys; Melzig; Meyers; Pilcher; Rabhan; Rowland; Seitz; Selph; Stuart; Velo; Watkins; Wilson, H.H., Jr.

Division of Neurological Surgery

Professor: Becker (Chairman); Miller; Ulmer (Chairman VA); Young, H.

Associate Professor: Fonseca; Selhorst; Sullivan
Assistant Professors: Greenberg; Griffith; Rosner; Ward

Division of Surgical Oncology

Professors: Terz (Chairman); Horsley; Kaplan; Lawrence
Assistant Professor: Blievernicht; Neifeld

Division of Orthopedic Surgery

Associate Professor: Cardea (Chairman)
Assistant Professors: Adelaar; Lang; Wood, G.

Division of Pediatric Surgery

Professor: Salzberg (Chairman)

Division of Plastic and Reconstructive Surgery

Professors: Cohen (Chairman); Theogaraj
Assistant Professors: Diegelmann; Merritt

Division of Cardiac and Thoracic Surgery

Professors: Lower (Chairman); Boshier; Brooks, J.W.

Associate Professor: Thomas, F.
Assistant Professor: Szentpetery

Division of Trauma and General Surgery

Professors: Haynes (Chairman); McGuire (Chairman VA)

Associate Professor: Maull
Assistant Professor: Halloran; Sugarman

Division of General Vascular and Transplantation Surgery

Professors: Lee, H.M. (Chairman); Barnes
Associate Professor: Fonseca; Mohanakumar; Thomas, J.
Assistant Professors: Halloran; Mendez-Picon
Instructor: Rittgers

Division of Urology

Professors: Koontz (Chairman); Smith, M.J.V.
Associate Professors: Hackler; Texter

BASIC SCIENCES—Basic science courses are incorporated into the curriculum of the medical students. For details on courses and faculty in the Departments of Anatomy, Biochemistry, Biophysics, Biostatistics, Genetics, Microbiology, Pharmacology and Physiology, see pages 111–118.

GRADUATE PROGRAM IN PATHOLOGY

The Department of Pathology of the School of Medicine offers the Master of Science and Doctor of Philosophy degrees. For details concerning admission and academic requirements, see the section in basic sciences, page 105.

Graduate Offerings (PAT)

501 General Pathology (Dentistry). LH-3; Lab H-6; SH-6. I. Instruction in the basic principles regarding alteration of structure and function in disease and in the

pathogenesis and effect of disease in the various organ systems.

509 Basic Immunohematology. LH-3; SH-3. II. A study of the blood groups in man, their mode of inheritance, and clinical significance. Pertinent laboratory exercises will be carried out in the blood bank.

510 Basic Clinical Immunohematology. LH-4; SH-4. I. PR: PAT 509 or permission of instructor. Indications for the transfusion of blood, blood components, and derivatives. Laboratory experience related to the collection and storage of blood, blood components, and blood derivatives.

513 Blood Banking Laboratory. Lab H-8; SH-4. I, II. PR: PAT 509. The laboratory is devoted to exercises in blood grouping, typing, genotyping, antibody screening, antibody identification, detection of Australia antigen (HAA), and the collection of blood from normal donors.

521 Clinical Chemistry. LH-3; SH-3. I. PR: permission of instructor. Principles and applications of automation and instrumentation to the analysis of biological fluids in health and disease. May be repeated up to 12 SH.

522 Clinical Chemistry. LH-3; SH-3. II. PR: permission of instructor. The metabolic basis of disease and the interpretation of laboratory data for diagnosis and patient management. May be repeated up to 12 SH.

530 Clinical Immunopathology. LH-2; Lab H-6; SH-5. I. PR: MIC 506 or equivalent. Application of immunologic methods to disease diagnosis and management with emphasis on immunopathogenetic mechanisms of organ systems: endocrine, lympho-reticuloendothelial, renal, gastrointestinal, cardio-pulmonary, skin, neurologic, etc. Technical aspects of testing, test interpretation and clinical case presentations will be intermingled to provide a comprehensive understanding of clinical immunopathology and its role in patient care.

560 Advanced Oral Pathology. LH-2; SH-2. I. PR: PAT 501. A didactic course on the etiology, clinical histopathologic characteristics, prognosis, and treatment of oral and paraoral lesion.

561 Oral Pathology Seminar. LH-1; SH-1. II. A thorough review of assigned topic from the current literature is required. Students then report on the clinical, histological, and biological characteristics of the assigned entity.

580 Experimental Pathology Seminar. LH-1; SH-1. I, II.

590 Clinical Chemistry Seminar. LH-1; SH-1. I, II. Graduate students, residents, and staff present topics of current interest in clinical chemistry.

602 Experimental Pathology of Infectious Diseases. LH-2; Lab H-6; SH-5. II. Autopsies and histopathology are studied to acquaint the graduate student with infectious disease pathology. Various animal and other models are used to demonstrate pathogenesis of some infections and other inflammatory mechanisms.

606 Biochemistry of Disease. LH-2; SH-2. I. PR: BIC 503. A detailed study of the biochemical mechanisms involved in the pathogenesis of certain diseases.

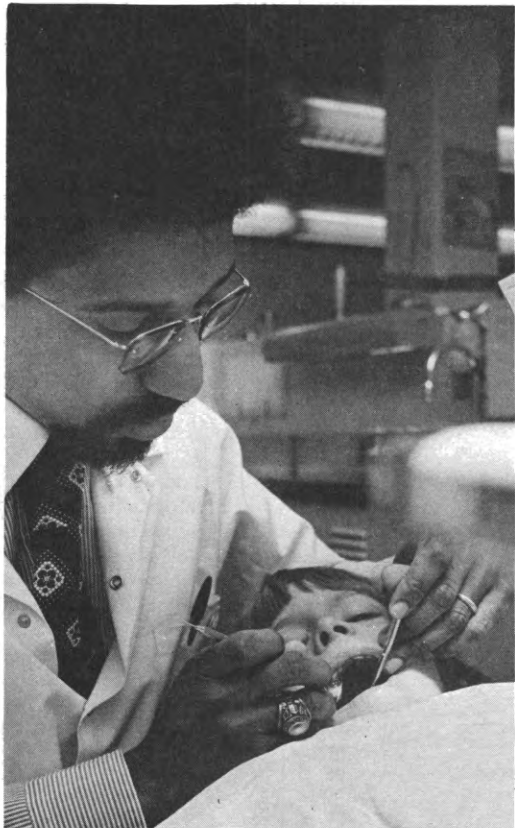
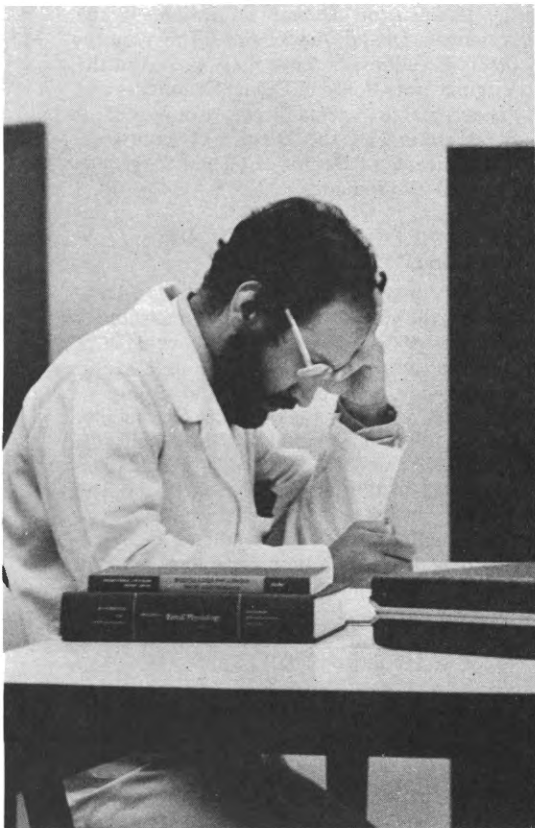
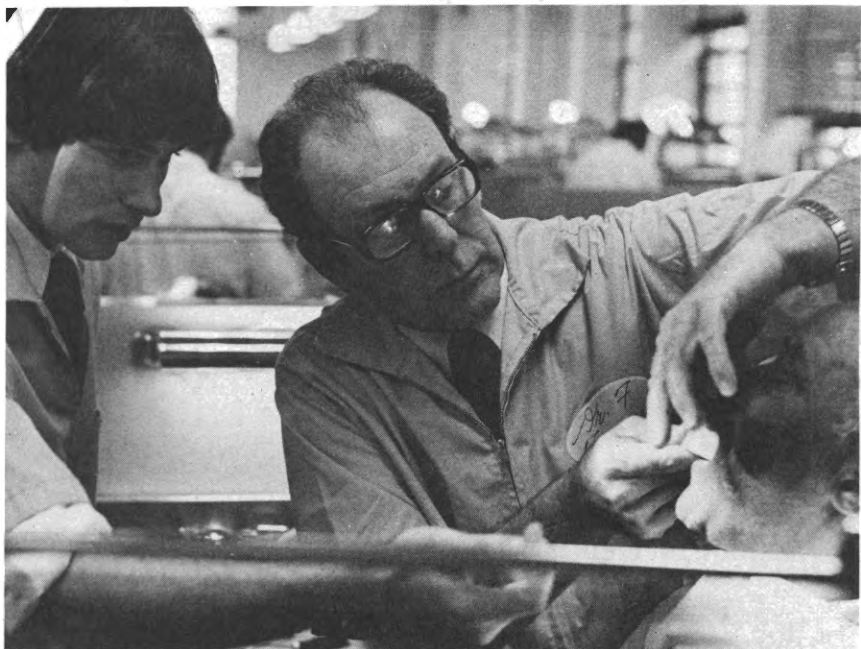
610 Physiology of Blood Coagulation. LH-1; Lab H-4; SH-3. I, II. PR: BIC 503 and PIO 502. The historical development of bleeding and clotting disorders with current diagnostic methodology and treatment.

612 Pathogenesis of Infectious Disease (Viral Agents). LH-2; Lab H-6; SH-6. II. PR: MIC 502 6; SH-5. II. or equivalent. Discussion of the pathogenesis and epidemiology of viral and rickettsial diseases emphasizing interrelationships of host, parasite, and environment. Students learn to evaluate virological procedures as well as the interpretation of laboratory results and their application to diagnostic problems in clinical areas.

614 Pathogenesis of Infectious Disease (Bacterial Agents). LH-2; Lab H-4; SH-4. II. PR: MIC 515 or equivalent. Emphasis is on the pathogenesis and epidemiology of infectious disease. The dynamic interaction between the host, microorganism, and environment are documented using the data obtained from MCV Hospitals. Students have the opportunity to apply laboratory data and techniques to present microbiological problems in clinical areas.

620 Special Topics in Modern Instrumental Methods. Lab H-2; SH-1. I, II. A study of some of the modern research methods of molecular biology. The student gains experience with the technique concomitant with discussions with faculty. The student writes a comprehensive review of the technique studied.

690 Research in Pathology. SH-1-15. I, II, S. Research leading to M.S. or Ph.D. degree.



PART III—School of Dentistry

James E. Kennedy, B.S., D.D.S., M.S.
Dean

James E. Hardigan, Ph.D.

Assistant to the Dean for Administrative Affairs

Richard R. Ranney, D.D.S., M.S.

Associate Dean for Research and Graduate Affairs

James H. Revere, Jr., B.A., D.D.S.

Associate Dean for Clinical Affairs

R. Bruce Rutherford, D.D.S., Ph.D.

Assistant Dean for Student Affairs

F.B. Wiebusch, B.B.A., D.D.S.,

Assistant Dean for Continuing Education

Joseph K. Wittemann, Ph.D.

Director of Educational Evaluation, Planning, and
Research

The MCV/VCU School of Dentistry was created in 1893 when the University College of Medicine opened with a dental department as one of its original divisions. The Medical College of Virginia inaugurated a dental education program in 1897, and in 1913 the two schools were merged to form the MCV School of Dentistry.

The facilities of the School of Dentistry are housed in the Wood Memorial Building and the Lyons Building. These modern buildings contain clinical facilities, classrooms, student laboratories, group study rooms with individual study alcoves, media library, departmental offices, and closed circuit color television studios with receiver units in laboratories and classrooms.

The school provides opportunities for selected, qualified individuals to study dentistry

under the most favorable conditions and in accordance with the standards established by the Council on Dental Education of the American Dental Association. The requirements for admission have the approval of the Virginia State Board of Dental Examiners and are acceptable to dental licensure boards of all other states and the District of Columbia.

The degree of Doctor of Dental Surgery is awarded to graduates.

MISSION OF THE SCHOOL OF DENTISTRY¹

The primary mission of the School of Dentistry is the education of general practitioners of dentistry and dental hygienists capable of meeting the present and future oral health care needs of the citizens of the Commonwealth of Virginia. Furthermore, the faculty accepts the responsibility for a prominent role in research and community service. As a state-supported institution and the only school of dentistry in the commonwealth, policies relative to admissions, undergraduate and postgraduate dental education programs, and continuing education will take special cognizance of the educational needs of Virginia dentists and dental hygienists and the oral health needs of the citizens of Virginia.

¹ Approved by the Faculty Council of the School of Dentistry, February 9, 1977.

The School of Dentistry will fulfill its mission by:

Providing educational programs which will allow maximum correlation of basic and clinical sciences, clinical experience in all phases of dentistry necessary to provide comprehensive patient care, and flexibility to permit in depth didactic and clinical experiences through elective courses and clinics.

Undertaking an active program to recruit and retain the students best qualified to meet the oral health needs of Virginia's citizens.

Offering curricula which will provide an opportunity for students to obtain the knowledge and clinical skills necessary for the practice of dentistry and dental hygiene and which will provide an appreciation for the humanistic and ethical aspects of dental practice.

Providing an educational climate which fosters a spirit of inquiry and stimulates in students a lifelong commitment to learning.

Participating in interdisciplinary education, research, and service programs, thus maximizing the utilization of the resources of a comprehensive university.

Familiarizing students with the dental health care needs of all segments of Virginia's population, especially patients with special needs, and providing the opportunity for students to deliver dental care in non-conventional settings.

Providing students a learning opportunity by participating in community service projects and thereby demonstrating their responsibility for improving the overall quality of life in the community.

Emphasizing in all educational programs, the early recognition and prevention of oral and paraoral diseases.

Providing an environment conducive to continued professional growth and development of the faculty.

Providing the opportunity for students to work with other health professionals and understand how they interface with dentistry.

Providing opportunities in postgraduate dental education in hospital-based general dentistry, the recognized dental specialties, and graduate studies in the basic sciences in such number and variety as indicated by the needs of the commonwealth.

Providing the opportunity for dentists to acquire the knowledge and skill in dentistry

and pedagogy so that the quality and numbers of dental educators might be enhanced.

Encouraging and supporting research by faculty and students aimed at enhancing understanding of the etiology and prevention of oral diseases, as well as improved rehabilitative therapy.

Recognizing as a component of a comprehensive health center the obligation to provide patient service and consultation appropriate to a teaching institution.

Promoting a mutually advantageous relationship with the dental practitioners of Virginia by sponsoring a continuing education program responsive to their needs.

Encouraging active participation by faculty and students in affairs of dentistry in the commonwealth.

Providing for an ongoing reappraisal of its mission in concert with the mission of the university and the goals of MCV/VCU and the needs of Virginia.

GOALS OF THE UNDERGRADUATE CURRICULUM IN DENTISTRY²

The goals of the undergraduate dental curriculum at the Medical College of Virginia of Virginia Commonwealth University reflect the primary mission of the School of Dentistry to educate general practitioners of dentistry capable of meeting the present and future health care needs of the citizens of the commonwealth in an atmosphere conducive to learning. Specifically the undergraduate curriculum in dentistry strives to prepare a practitioner who:

1. applies basic concepts derived from the study of biomedical, physical, and behavioral sciences to the practice of dentistry.

2. applies acquired information and skills to the evaluation of a patient's health status, to effectively render a diagnosis and subsequently develop a detailed program of dental treatment to meet the needs of the patient.

3. has acquired the cognitive, affective, and psychomotor skills necessary to provide for the comprehensive dental treatment of patients.

4. has developed a philosophy of oral and paraoral disease prevention based on sound principles of modern dental care and is able to apply requisite preventive therapies.

²Approved by Faculty Council, April 12, 1978

5. can function as a dentist in interdisciplinary health delivery systems.

6. has acquired the requisite interpersonal, managerial, and technical skills to effectively and efficiently work with other dental personnel.

7. understands, synthesizes, and can evaluate relevant literature to benefit from research and apply this knowledge to patient care.

8. applies ethical, moral, and legal principles of dental practice.

9. evaluates the current socio-political issues which impact on the delivery of dental care.

10. recognizes and appreciates the scope of the undergraduate curriculum and the need for continued education.

ADMISSION REQUIREMENTS

A minimum of 90 semester hours of college credit is required. Required courses are general biology, general chemistry, organic chemistry, physics, and English. Laboratory experiences are required for those courses where applicable. Courses in the behavioral sciences and courses involving psychomotor skills are recommended. Academic credits presented by an applicant must be acceptable for credit toward a degree in the institution in which the courses are taken. These courses should be completed by January of the year in which admission is desired.

Participation in the Dental Admission Test (DAT) of the American Dental Association is required. The applicant should take the test in April of the year preceding the year in which admission is desired. The DAT *must* be taken by October of the year preceding the desired admission year.

Selection Factors

The Medical College of Virginia of Virginia Commonwealth University is a state-supported university and gives admission preference to state residents. All applicants are evaluated by uniform criteria without regard to national origin, color, race, religion, or sex.

Students are selected by the Admissions Committee on the basis of excellence of pre-dental education, DAT scores, recommendations, and results of personal interviews with members of the committee. The interview process is standardized and designed to deter-

mine motivation, knowledge of and interest in the dental profession, and to afford the applicant an opportunity to provide additional information pertaining to his/her application.

Application Procedures

The School of Dentistry participates in the American Association of Dental Schools Application Service (AADSAS). All applicants are required to submit credentials through this service. Application forms can be obtained from AADSAS, P.O. Box 4000, Iowa City, 10 52240. Application forms can also be obtained from the Office of Student Affairs, School of Dentistry, Medical College of Virginia, Virginia Commonwealth University, Box 566, MCV Station, Richmond, VA 23298.

Application to the School of Dentistry can be made through AADSAS on or after June 1 and must be received by AADSAS not later than December 15 of the year preceding the year in which admission is desired. The AADSAS application fee is \$40.

AADSAS compiles academic records and other pertinent information and forwards these with the application to the School of Dentistry. Qualified applicants are then requested to submit supplemental information, such as letters of recommendation, by January 15 of the year in which admission is desired. The application fee is \$15.

Successful applicants can be notified as early as December 1 of the year preceding the year in which admission is desired. Within 30 days following notification of acceptance, the applicant is required to deposit \$200 toward tuition for the first year. After April 1, the deposit must be received within two weeks following notification of acceptance. The deposit fee is non-refundable.

Authorization to matriculate constitutes an agreement for the reservation of a place in the class entering for the session cited. *Should* the \$200 deposit not be received by the Office of Student Affairs within the prescribed period, reservation will be cancelled and the class position offered to another applicant.

The act of matriculation also implies a willingness on the part of the student to comply with university rules and regulations, to take an interest in maintaining the ideals of the institution, and to conduct himself/herself

in a manner befitting a member of the dental profession.

FINANCIAL ASSISTANCE

A brief description of financial aid based on demonstrated need is contained in Part I of this bulletin. Financial need-based aid programs available to dentistry students include Health Professions Student Loan, National Direct Student Loan, State Dental Practice Scholarship, Virginia Dental Association Student Loan Program, and institutional loans. Further information on the State Dental Practice Scholarship Program may be obtained from the School of Dentistry; information on the others may be obtained from the MCV Financial Aid Office.

National Health Service Corps Scholarship

The U.S. Public Health Service provides for up to four years' paid tuition and fees, book and supplies allowance, and a monthly stipend of about \$400 in exchange for full-time clinical practice in the National Health Service Corps. Normally the recipient serves one year for each year of scholarship, with a minimum of two years. Selections will be made by NHSC prior to August 1. For current information, write:

NHSC Scholarship Program, Center Building, Room 5-44, 3700 East-West Highway, Hyattsville, Maryland.

HONORS

The School of Dentistry has a chapter of Omicron Kappa Upsilon, the national honorary dental society. Each year the society selects those students who, in addition to scholarship, have demonstrated exemplary traits of character and potential qualities of future professional growth and attainments.

A certain percentage of junior and senior students are selected each year to become members of Sigma Zeta and Alpha Sigma Chi, honorary scientific societies.

The Alpha Omega Scholarship Award is presented to the graduating student who has attained the highest scholastic rating for his four years of dental study.

At the end of each academic year, senior students are recognized for their outstanding achievements in various dental areas. Awards are presented at the annual Honors and

Awards Convocation to which students, parents, and faculty are invited.

A. D. Williams Award. An annual stipend may be made, on the nomination of the faculty, to a student in each class who demonstrates by virtue of high scholastic attainment and professional performance, unusual promise and ability. Character, motivation, intellectual curiosity, and realization of the opportunities for intellectual development will be considered in the award which is made at the end of the academic year.

ADVANCED DENTAL EDUCATION PROGRAMS

The School of Dentistry provides advanced dental education programs in the dental specialty areas of endodontics, oral pathology, oral and maxillofacial surgery, orthodontics, pedodontics, and periodontics. All programs are accredited by the Commission on Accreditation of Dental and Dental Auxiliary Educational Programs of the American Dental Association. Satisfactory completion of the program leads to the award of a certificate of training, certifying eligibility for examination by the appropriate specialty board. Those enrolled are full-time resident trainees, considered to be equivalent full-time students. Under special circumstances, trainees may be accepted into some programs on a part-time basis.

Applications for admission should be directed to the program director of the desired program. Candidates for admission to advanced education programs involving clinical care of patients must be eligible for dental licensure in Virginia.

Endodontics

Program Director: Marshall C. England, Jr., D.D.S.

The advanced education program in endodontics is designed to educate qualified individuals to pursue careers as teachers, researchers in the biological sciences, and practicing specialists of endodontics.

The basic 22-month certificate program is composed of two interrelated phases. The first consists of lecture courses which provide the student with a firm biological basis for patient care. The second phase consists of lectures, seminars, and clinical training which is designed to produce clinical proficiency. Re-

search experience is gained through the completion of an individual research project. The entire program conforms with the guidelines established by the American Board of Endodontics and the Education Committee of the American Association of Endodontics, and the Commission on Accreditation (A.D.A.).

Since the major emphasis of the program is on teaching and research, the students have the option, within an expanded time frame, to seek advanced degrees (M.S. or Ph.D.). The curriculum is designed on an individual basis by the basic sciences advisor and the director of postgraduate endodontics.

Oral Pathology

Program Director: Richard P. Elzay, D.D.S.

The philosophy of this program is to train interested, qualified individuals to become competent practicing oral pathologists, researchers, and/or teachers. The program is formal but flexibility does permit trainees the opportunity to pursue areas of interest in their didactic and research efforts. Training may be divided into two interlocking phases. The first phase is a residency program and adheres to the accreditation guidelines of the Commission on Accreditation (A.D.A.). This phase of the program is of 24 months duration and prepares the individual for board eligibility.

Phase two, an optional graduate program, is for those individuals who wish to augment their residency training by receiving an M.S. or Ph.D. degree through one of the basic science departments in conjunction with their residency training in pathology. Applicants may be eligible, if accepted, for an annual stipend and/or clinical fellowship on a competitive basis.

Oral and Maxillofacial Surgery

Program Director: S. Elmer Bear, D.D.S.

The oral and maxillofacial surgery program is designed to include three interns, six assistant residents, and three residents. The program has been approved since its inception by the Commission on Accreditation of the American Dental Association and by the Committee on Residency Education and Training of the American Association of Oral and Maxillofacial Surgeons. Those who complete the four years of training satisfactorily

fulfill the prerequisites of the American Board of Oral and Maxillofacial Surgery and are eligible for examination by that board.

Didactic material is given over a four year period and includes courses in oral pathology, anatomy, and physical diagnosis. Clinical rotations on the following services are used to supplement the trainee's experience: oral pathology, anesthesia, medicine, surgical oncology, neurosurgery, cardiology, plastic surgery, emergency room, and private service. Seminars in allied fields such as pharmacology, anesthesiology, physiology, and microbiology, also supplement the didactic and clinical rotations. There is a constant correlation of clinical experience during the four year training with ever increasing responsibilities as time and abilities dictate.

Through the multiple clinical and didactic facilities of the MCV/VCU medical center complex and the McGuire Veterans Administration Hospital, there is ample material for education in the latest oral and maxillofacial surgical techniques.

The oral and maxillofacial surgery service is responsible for diagnosis and management of diseases related to the oral cavity and its associated structures. Trainees are involved in all aspects of treatment including: exodontia, simple and complicated; anesthesia; oral and maxillofacial trauma, soft and hard tissue; pre-prosthetic surgery; orthognatic surgery, oral and para-oral pathology, oral and maxillofacial reconstruction, and temporomandibular joint surgery.

The trainee is accepted for the full four years since a combined didactic and clinical experience is the most valuable and practical way of providing complete exposure to the field of oral and maxillofacial surgery.

Orthodontics

Program Director: James E. McIver, D.D.S.

This 24-month advanced education program begins each July and is completed in June of the second year. The curriculum includes courses from the basic science departments, from the advanced programs of the dental school, as well as from the Department of Orthodontics. Departmental and conjoint seminars provide additional experiences to enhance clinical knowledge and judgment. The primary emphasis of this certificate pro-

gram is on clinical competence and includes the coordination of treatment with various medical and dental specialties. The completion of a research project is a requirement of the program.

A graduate program, which requires approximately 33 months to complete, is also available. In addition to a certificate in orthodontics, this program leads to a Master of Science degree in one of the basic sciences. The curriculum is designed for each individual by the Department of Orthodontics and the basic science department concerned.

Pedodontics

Program Director: Arthur P. Mourino, D.D.S.

The advanced dental education program in pedodontics is a 24-month program designed to meet the guidelines of the American Academy of Pedodontics and the requirements of the Commission on Accreditation of the American Dental Association. It is a combined university and hospital based postgraduate program leading to a certificate of advanced training in pedodontics. In addition, a combined program leading to a M.S. or Ph.D. degree with a clinical specialty in pedodontics is available for interested and qualified individuals.

Emphasis is placed on a diversified educational experience. Teaching and research opportunities are available in addition to the clinical, hospital, and didactic program. The course of study includes clinical experience in the treatment of handicapped as well as normal children, pediatric and hospital rotations, and comprehensive dental care with the aid of general anesthesia. Seminars and formal courses are held in pedodontic and orthodontic diagnosis and treatment planning, growth and development, cephalometric analysis, oral pathology, principles of pediatrics, pharmacology, anesthesiology, head and neck anatomy, learning disorders, basic science, and clinical core courses. Elective courses are available within the university and the School of Dentistry.

Periodontics

Program Director: Kent G. Palcanis, D.D.S.

The advanced education program in periodontics consists of a 24-month curriculum. The curriculum includes courses in the

basic sciences plus seminars, lectures, and clinics. All provide opportunities for concentrated learning and experience in the clinical specialty of periodontics as well as interaction with interrelated areas of general dentistry and other clinical specialties. The philosophy of the program requires that the student develop capacity for judgment and adaptability from knowledge of basic science and reliance on evaluation of published reports.

For trainees interested in pursuing academic careers, the program may be expanded to include research experience or combined with a M.S. or Ph.D. degree in the School of Basic Sciences. The curriculum for the combined residency/degree program is individualized, building upon the requirements for the residency in the basic science department of interest.

Preference is given to qualified applicants seeking an academic/research-oriented program.

COMBINED D.D.S. AND M.S. OR PH.D. PROGRAMS

The dental curriculum provides an opportunity for interested dental students to enter a combined D.D.S./M.S. or Ph.D. program.

Individualized curricula are developed for such students, with the approval of the students' advisors in the basic science department of study, the dean of the School of Basic Sciences, and the associate dean for research and graduate affairs of the School of Dentistry. Ordinarily, the combined program requires more than four years to complete requirements for both degrees. For further details see the section on School of Basic Sciences, page no. 109.

DIVISION OF CONTINUING EDUCATION

F.B. Wiebusch, D.D.S.

Assistant Dean for Continuing Education

For every professional person who serves the health sciences, education must be a lifetime process.

Graduation from dental school is the beginning of a continuous educational experience for the serious, conscientious student of dentistry. Regardless of how well prepared a professional person may be at the time he completes his education, the adequate knowl-

edge of yesterday is often insufficient information for today and tomorrow. With the rapid advancements made in dental concepts and techniques, the professional person must constantly seek new knowledge if he is to improve the health care he gives his patients.

Although the majority of continuing education courses are presented at the School of Dentistry, some offerings are given in other locations. The courses, which vary in length from one day to three days, are scheduled from August through June and consist of a variety of instructional methods—from didactic and television presentations to the individual's participation in clinical procedures.

The instructional staff for these endeavors is comprised of teachers from the MCV/VCU School of Dentistry, guest lecturers from other dental schools, and members of the dental profession and related professions in the state of Virginia.

CURRICULUM

The curriculum in the dental school is organized into a four-year program leading to the Doctor of Dental Surgery (D.D.S.) degree. The program emphasizes study in three broad areas: basic sciences, clinical sciences, and social sciences.

The basic sciences include in depth study of anatomy, biochemistry, genetics, microbiology, pathology, pharmacology, and physiology.

The clinical sciences prepare the student for the actual practice of dentistry and expose him to the various specialties in dentistry.

The behavioral sciences cover such topics as dental health needs, the system of health care delivery, practice management, professional ethics, and behavioral factors.

Laboratory and clinical experiences are offered throughout the four years to develop within the student the skills vital to the practice of general dentistry.

SENIOR ELECTIVE CURRICULUM

Recognizing that individual students have different needs and goals, the School of Dentistry offers a didactic clinically oriented senior year. Elective courses have been developed so that students who have an interest in further developing competency in a particular area may do so without adherence to a rigid

curriculum. In addition, this program allows students, who have demonstrated or feel a lack of competence in an area to enhance their educational experience. This program also allows those who have not defined their goals to expose themselves to an assortment of courses which may lead to career options they have not yet encountered.

Continuation of clinical assignments and patient care is required during this experience.

Each semester a new elective catalog is published containing courses offered by the various departments and divisions of the School of Dentistry as well as other schools of the university.

HONORS PROGRAM (DEN 649)

The Honors Program is an individualized program for qualified fourth year students which permits the student to focus his time and energy in a defined area of study, service, and/or research in the biomedical and clinical sciences; and/or delivery of patient care within and outside the school.

BASIC AND ADVANCED CARDIAC LIFE SUPPORT PROGRAM

All dental students and faculty are certified and recertified in cardiopulmonary resuscitation (CPR). In addition, all fourth year students and faculty are certified in Advanced Cardiac Life Support (A.C.L.S.). Both courses are taught under the auspices of the Virginia chapter of the American Health Association and conform to its published standards. The courses are taught jointly by certified instructors of the Heart Association, School of Dentistry, and School of Medicine.

The basic life support course includes didactic and laboratory experience focusing on: recognizing the respiratory and cardiac emergency, providing artificial ventilation, and providing for artificial circulation via cardiac compression in children and adults in a comprehensive way.

Advanced life support expands on skills acquired in the CPR course by including didactic instruction and laboratory experience in/on the use of adjunctive equipment, cardiac monitoring, defibrillation, establishing intravenous infusion lifeline, employing definitive therapy, and patient stabilization.

CURRICULUM

		Lecture	Clock Hours:		Semester Hours ³
			Laboratory	Clinical	
<i>Freshman, First Semester</i>					
RED 511	Dental Anatomy.....	39	53		(4.5)
CMD 511	Community Health.....	50		18*	(3.5)
BIC 501	Biochemistry.....	64	32		(5.0)
ANA 501	Microscopic Anatomy for Dental Students.....	48	96		(6.0)
GEN 531	Dental Genetics.....	16			(1.0)
CMD 510	Preventive Dentistry.....	28		4	(2.0)
<i>Freshman, Second Semester</i>					
CMD 512	Environment of the Dental Profession.....	16		20*	(1.5)
PER 512	Anatomy, Physiology, and Pathology of the Periodontium.....	32			(2.0)
PIO 502	Dental Physiology.....	77 ⁵	45		(6.5)
ANA 502	Dental Gross Anatomy.....	70	114		(8.5)
RED 514	Introduction to Principles of Occlusion.....	5	45		(1.5)
ORP 511	Oral Pathology—Survey Part I.....	8			(.5)
ORP 515	Oral Pathology—Survey Part II.....	8			(.5)
PED 512	Growth and Development of Children.....	10			(.5)
OCC 512	Occlusion I.....	16	32		(2.0)
ANA 504	Neuroanatomy.....	20			(1.5)
RED 512	Restorative Dentistry.....	16	45		(2.5)
<i>Sophomore, First Semester</i>					
CMD 525	Human Nutrition.....	16			(1.0)
ORT 521	Orthodontics.....	4	44		(1.5)
PMC 509	Dental Pharmacology and Pain Control (continues in second semester).....	30	4		
RED 521	Operative Dentistry.....	16	8		(2.5)
PER 521	Etiology and Epidemiology of Periodontal Diseases.....	32			(2.0)
MIC 523	Microbiology: Infections and Immunity (continues in second semester).....	16			
PAT 501	General Pathology.....	48	96		(6.0)
OCC 521	Occlusion II.....	32	42		(3.5)
CSL 523	Clinical Skills Laboratory (continues in second semester).....	10	6		
REP 523	Preclinical Complete Denture Prosthodontics (continues in second semester).....	16	47		
PER 520	Periodontal Instrumentation.....	9	10		(1.0)
<i>Sophomore, Second Semester</i>					
CSL 523	Clinical Skills Laboratory.....	16	3	33	(3.0)
ORT 522	Orthodontics.....	16			(1.0)
PER 522	Diagnosis and Treatment Planning for Periodontal Therapy.....	16			(1.0)
PED 522	Pediatric Dentistry II.....	28	12	20	(2.5)
MIC 523	Microbiology: Infections and Immunity.....	48	45		(5.0)
ORP 522	Oral Pathology.....	32	15		(2.5)
REP 523	Preclinical Complete Denture Prosthodontics.....	16	47		(5.0)
ORS 522	Oral Surgery I.....	16			(1.0)
RED 522	Crown and Bridge Technic Course I.....	32	96		(5.0)
PMC 509	Dental Pharmacology and Pain Control.....	32			(4.0)
CMD 522	Dental Auxiliary Utilization.....	4		4	(1.0)
CMD 527	Extramural Rotation.....			36	(1.5)
CMD 524	Patient Behavior and Practice of Dentistry.....	8	1		(.5)
REP 525	Preclinical Removable Partial Denture Lecture.....	16			
<i>Junior, First Semester</i>					
PMC 511	Pharmacology and Pain Control (continues in second semester).....				
REP 533	Complete Denture Prosthodontics (continues in second semester).....	16			

³Semester hours are designated for grade reporting purposes.⁴Community Based⁵Certification in cardiopulmonary resuscitation included.⁶Re-certification in CPR included.

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REP 535	Removable Partial Denture Prosthodontics.....	16		
ORT 533	Orthodontics (continues in second semester).....	8		
ORS 533	Oral Surgery II (continues in second semester).....	9	12	(1.0)
END 531	Endodontic Therapy.....	16		(1.0)
ANA 505	Head and Neck Anatomy.....	30 ⁶	6	(2.0)
RED 533	Restorative Dentistry (continues in second semester).....	16		
PER 531	Periodontal Therapy.....	32		(2.0)
PED 533	Pediatric Dentistry III(continues in second semester).....	32		(2.0)
END 521	Principles of Endodontics.....	15	45	(2.0)
REP 525	Preclinical and Removable Partial Prosthodontics.....	17	57	(3.0)
RED 531	Crown and Bridge Technic Course II.....	16	48	(2.5)
PRM 531	Physical Evaluation and Diagnosis.....	20		(1.5)

Junior, Second Semester

ORT 533	Orthodontics.....	22		(2.0)
ORS 533	Oral Surgery II.....	32		(3.0)
CMD 532	Practice Administration.....	16		(1.0)
REP 533	Complete Denture Prosthodontics.....	32		(3.0)
LEM 532	Dental Jurisprudence.....	8		(.5)
REP 535	Preclinical Removable Partial Denture.....	16		(2.0)
RED 533	Restorative Dentistry.....	16		(2.0)
PED 533	Pediatric Dentistry III.....	10		(2.5)
ORP 532	Oncology.....	8		(.5)
ORP 534	Management of Oral Pathosis.....	16		(1.0)
PMC 511	Pharmacology and Pain Control.....	15		(3.0)

JUNIOR ROTATIONS⁷

ORP 537.01	Radiology Rotation.....		48	(2.0)
CMD 547.01	DAU Clinical Rotation.....(continues in D4 year)		60	(2.0)

OTHER ROTATIONS⁷

Endodontics.....	9
Occlusion.....	3
Outpatient Clinic.....	30
Pedodontics.....	5
Prosthodontics.....	6

SENIOR ROTATIONS

ORP 547.01	Emergency and Screening Rotation.....	36	(1.5)
ORP 547.02	Oncology Rotation.....	8	(.5)
CMD 547.02	Extramural Rotation (4 weeks).....	120	(5.0)

OTHER ROTATIONS⁷

Endodontics.....	10
TMJ Clinic.....	3
Outpatient.....	72
Pedodontics.....	5
Prosthodontics.....	6
Certification in Advanced Cardiac Life Support Program.....	13 14

CLINIC YEARS (D3, D4)⁸

CMD 539.01	Preventive Services.....	39	(1.5)
END 549	Clinical Endodontics.....	110	(5.0)
ORS 549	Oral Surgery III.....	30	(5.0)
ORT 549	Clinical Orthodontics.....	30	(2.0)
PED 549	Clinical Pediatric Dentistry.....	210	(8.0)
PER 549	Clinical Periodontics.....	210	(8.0)
RED 549	Clinical Restorative Dentistry.....	460	(18.0)
REP 549.01	Clinical Complete Denture Prosthodontics.....	120	(9.0)
REP 549.02	Clinical Partial Denture Prosthodontics.....	90	96 (7.0)
DEN 649	Honors Program.....	Variable	

⁷These rotations are included in clinical courses during D3-D4 years.

⁸Clock hours represent maximum time available.

Students will be requested to participate in extramural programming. Times and dates will be announced.

ACADEMIC PERFORMANCE GUIDELINES

The faculty of the MCV/VCU School of Dentistry has the responsibility for evaluating the student's academic performance. It is incumbent on the course directors or their designees to specify, at the time that courses first convene, the criteria to be used in student assessment and the standards by which they will be judged.

Grades — As a result of evaluation by the faculty, each student may obtain those grades listed in the Medical College of Virginia *Bulletin*. Special grade considerations are as follows:

I = Incomplete: Course requirements have not been completed. This grade is reserved for those situations in which the student has been unable to complete the course requirements for justified reasons. Subsequently, the student must complete the course(s) in which he/she is deficient in order to earn a final grade. A student may be required to retake an examination or complete additional clinical material at the discretion of course director and/or chairman of the department. The time allowed for the removal of the "I" is at the discretion of the course director and/or chairman of the department with the approval of the Academic Performance Committee but in no instance may this extend beyond the second semester following the semester in which the grade of "I" was incurred.

When a deadline has been established to remove a grade of "Incomplete," the student assumes the responsibility for completing the course requirements. When the student has not met the specified deadline to remove the "I," a final grade of "F" will be given and grade changes may only be accomplished through the grade appeals procedure.

CO = Continuing: In addition, progress grades will be issued for continuing didactic and clinical courses at the end of each semester. Specific progress information will be recorded only in the School of Dentistry. The notations are as follows: PR-s and/or PR-u designated both qualitatively and quantitatively. Progress grades are based upon each department's guidelines to include quality and quantity of clinical performance. They will not appear as part of the permanent record. Final grades will be rendered and recorded upon the completion of the courses.

On the basis of the compiled grade record for each student, the Academic Performance Committee will recommend to the Faculty Council of the School of Dentistry graduation, promotion, probation, repetition of a year, or dismissal. Other factors considered by the Academic Performance Committee in making these recommendations are covered on pages 30 and 31.

The student has the right to appeal any grade through the university grade appeal process. Decisions of the Faculty Council may be appealed through the appeal process of the School of Dentistry.

Graduation — Upon completion of four academic years, students will be considered for graduation if they have a minimal grade-point average of 2.0 for the senior year, a minimal cumulative grade-point average of 2.0, and have successfully completed all requirements.

However, students who have a 2.0 cumulative average or higher and have earned one or more "D" grades in clinical courses during their senior year will be subject to further review and may not be recommended for graduation. Information related to status of patient(s) in the student's care will be considered in the deliberations.

Promotion — Students who have achieved a grade-point average of 2.0 or higher and who have not failed a course in a given academic year will be *considered* for unconditional promotion. When a student has one or more incomplete grades, the student may be promoted conditionally. The student will be promoted upon satisfactorily removing the incomplete grades according to the Academic Performance Committee's specifications. The grade-point average will be recomputed.

Any student with *one failing grade* may be recommended for promotion provided that the failing grade can be satisfactorily removed before the end of the next academic year or within the time recommended by the course director(s) and the Academic Performance Committee.

A student failing to satisfactorily complete a course within the guidelines of the Academic Performance Committee will be subject to (a) repetition of the year; (b) dismissal; (c) or other action as recommended by the Academic Performance Committee.

Upon satisfactory completion of the course wherein a grade of "F" is recorded, the new grade will be added and recorded on the student's permanent record and entered into the compilation of the grade-point average. Both grades will be computed in determining the student's grade-point average.

Upon review by the Academic Performance Committee, a student with *two or more failures* in an academic year shall be subject to (a) repetition of the year; (b) dismissal; (c) or other action as recommended by the Academic Performance Committee.

The disposition of all cases in which a student has *failed to achieve a 2.0 grade-point average* will be determined on an individual basis by the Academic Performance Committee. All students who fail to achieve a 2.0 grade-point average in any given semester are automatically placed on academic probation.

If the cumulative grade-point average is below a 2.0, the Academic Performance Committee may recommend conditional promotion, repetition of the year, dismissal from the institution, or other action as recommended.

A student who has compiled a probationary record for *two successive semesters* will be subject to repetition, dismissal, or other action as recommended by the Academic Performance Committee.

Division of Dental Hygiene

The Division of Dental Hygiene instituted in 1969 offers courses in the School of Dentistry leading to a Bachelor of Science degree in dental hygiene. The program requires two years of liberal arts study, with a minimum of 60 semester hours, followed by two years of study in dental hygiene. The Division of Dental Hygiene is accredited by the Commission on Accreditation of the American Dental Association. Upon successful completion of the program, graduates will be eligible for national, regional, and state board licensure examinations.

PHILOSOPHY AND GENERAL EDUCATIONAL GOALS

The Division of Dental Hygiene believes that the modern practicing hygienist needs a broad range of skills to function effectively. Training in particular clinical-technical skills, while essential, will not be sufficient to meet

increasing social demands of comprehensive oral health care at all societal levels. The division sees the baccalaureate degree in dental hygiene as a key agent, not only in helping the dental profession respond to changing demands, but also in helping to facilitate change itself. Therefore, the baccalaureate degree program in dental hygiene has the following overall goals to:

- Perform traditional dental hygiene functions.

- Employ decision-making skills in providing clinical service in health care and educational programs.

- Function under supervision in an extended role in the provision of independent units of service.

- Assume a leadership role within political, social, educational, and professional settings to improve the health of all members of society.

- Design and implement health programs utilizing principles and theories of learning, health care organizations, behavioral science, and communication skills.

- Apply research design and statistics in critiquing professional and scientific literature.

- Apply research methodology to design and to evaluate the effectiveness of health care and educational programs.

- Administer dental service programs in comprehensive health care units and community settings.

- Function as a dental health consultant.

- Prepare for graduate and advanced professional programs.

HONORS AND AWARDS

Sigma Phi Alpha is the National Dental Hygiene Honor Society. Senior dental hygiene students are elected to membership who rank highest in scholarship and character and exhibit potential qualities for future growth and attainment as recommended by faculty members. Membership is limited to 10 percent of the graduating class and is selected from the upper 20 percent of the class. If 10 percent of the class is fewer than two, a maximum of two seniors may be elected.

Community Dental Hygiene Award. This award, presented annually to a graduating senior dental hygiene student, is based not

only on the student's ability to recognize and understand the oral health needs of a community, but also on the demonstrated ability to develop and implement a program to meet those needs.

A certificate is given and the recipient's name is engraved on a plaque which hangs in the School of Dentistry.

Virginia Dental Hygienists' Association Award. An annual award is made to one graduating senior and is based on the student's scholastic ability, clinical proficiency, and professional contributions. A one year membership in the American Dental Hygienists' Association and a certificate are presented to the selected student and the individual's name is engraved on the school plaque.

A. D. Williams Award. An annual stipend may be made, on the nomination of the faculty, to a student in each class who demonstrates by virtue of high scholastic attainment and professional performance unusual promise and ability. Character, motivation, intellectual curiosity, and realization of the opportunities for intellectual development will be considered in the award which is made at the end of the academic year.

FINANCIAL AID

Scholarships are available through the American Dental Hygienists' Association, the Women's Auxiliary to the Virginia Dental Association, the Women's Auxiliary to the Richmond Dental Society, Alpha Alpha Gamma Chapter of Sigma Phi Alpha, and the Virginia State Department of Health. Additional aid is available through loan funds of the Virginia Dental Hygienists' Association, and the Financial Aid Office of MCV/VCU. (Full information on financial aid is available upon request from: The Financial Aid Office, Medical College of Virginia, Virginia Commonwealth University, Box 244, MCV Station, Richmond, VA 23298.)

Dental hygiene students qualify for the National Defense Student Loan Program and the Veterans Administration Benefits.

ADMISSION REQUIREMENTS

Two years of liberal arts study with a minimum of 60 semester hours of transferable quality academic courses are required.

A. Courses

1. Specific

- a. English—1 year
- b. Biology
- c. Chemistry—1 year
- d. Anatomy and Physiology
- e. Introductory sociology
- f. Introductory psychology
- g. Introductory speech

2. Approved electives fulfilling the distribution requirements of the liberal arts college or university currently attending. Courses in organic chemistry and basic statistics are recommended.

B. At least a "C" average must be earned for all work undertaken.

C. Applicants should take the Dental Hygiene Aptitude Test by November preceding the fall admission date.

D. Dental and medical examinations required prior to matriculation must indicate good general health and a satisfactory dental condition.

E. A personal interview by a previously arranged appointment may be requested prior to admission.

For further details regarding the dental hygiene program contact: Division of Dental Hygiene, Medical College of Virginia, Virginia Commonwealth University, Box 566, MCV Station, Richmond, VA 23298, (804) 786-0488.

For application information contact: Director of Admissions, Medical College of Virginia, Virginia Commonwealth University, MCV Station, Box 163, Richmond, VA 23298. Telephone: (804) 786-0488

GRADUATION REQUIREMENTS

Graduation requirements are given in the "Academic Performance Guidelines" for the School of Dentistry, page 59.

CURRICULUM

The dental hygiene program includes study of the basic, dental, and clinical sciences through lecture, laboratory, clinical, and community experiences.

CURRICULUM

		Lecture	Clock Hours:		Semester Hours
			Laboratory	Clinical	
Junior Year, First Semester ⁹					
MIC 365	Infection and Immunity.....	30	35		3.0
NUR 341	Human Nutrition	30			2.0
ORP 301	General Pathology.....	15			1.0
RED 311	Dental Anatomy.....	30	45		3.0
DEH 301	Dental Hygiene I.....	30	96	24	4.0
ANA 303	Microscopic Anatomy.....	45			3.0
Junior Year, Second Semester					
ANA 506	Head and Neck Anatomy.....	21	63		3.0
ORP 524	Oral Pathology	30			2.0
PER 310	Periodontics I.....	15			1.0
RED 302	Dental Materials.....	15	45		2.0
DEH 302	Dental Hygiene II.....	45	45	144	6.0
DEH 312	Community Dental Health I	45			3.0
Senior Year, First Semester ¹⁰					
PMC 441	Pharmacology and Pain Control	75	6		5.0
PER 411	Periodontics II.....	30			2.0
DEH 401	Dental Hygiene III.....	15		128	6.0
DEH 411	Community Dental Health II.....	45			3.0
Elective					2.0
Senior Year, Second Semester					
DEH 402	Dental Hygiene IV.....	15		128	5.0
DEH 412	Community Dental Health III			240	4.0
DEH 422	Dental Hygiene Seminar I.....	30			2.0
DEH 432	Dental Hygiene Seminar II.....	15	45		2.0
DEH 442	Dental Hygiene Seminar III	30		8	2.0

⁹ Certification in cardiopulmonary resuscitation¹⁰Recertification in cardiopulmonary resuscitation

DEPARTMENTS AND DIVISIONS OF INSTRUCTION

Some courses in the School of Dentistry are taught in blocks of time which do not lend themselves to identification by lecture or laboratory hours per week. In lieu of this the hours in those courses are identified by total hours taught.

Department of Community Dentistry (CMD)

Associate Professors: Cheney (Chairman); Fishman; Witteman

Associate Clinical Professor: Price, M.R.

Assistant Professors: Fretwell; Gray; Hardigan; Leary; Luton; Odom; Selby; VanOstenberg; Zucker

Assistant Clinical Professors: Lefcoe; Lieb; Price, M.; Smith

Clinical Professors: DePuty; Doherty

Clinical Instructors: Abbott; Bernhardt; Bratton; Cannaday; Elmore; Freedman; Garbee; Gardner; Gilliam; Glasser; Guarnier; Handley; Hicks; Hitchcock; Hutcheson; Jeffrey; Jones; Kiefer; King; Knaysi; Leinbach; Lombardo; Mansell; McGrane; Mears; Milonas; Mostilier; Paul; Peery; Pickard; Ray; Ready; Riggs; Sanford; See; Smith; Sumner; Talton; Vogel; Wood; Yost

510 The Science of Preventive Dentistry. LH-2; SH-2. This course will focus on the comprehension of the biologic basis of dental caries and periodontal disease and the etiology and therapeutic prevention of these diseases. The student will gain an understanding of nutritional deficiency diseases, viral infections, the causes of birth defects, and a myriad of systemic-based diseases that affect the oral cavity.

511 Community Health. LH-3. I. An overview of the dental profession is presented covering the service, social, and scientific natures of the profession. This course emphasizes two major themes: factors which affect the private practice of dentistry and the dentist's responsibility for the dental health of the total community. Course content includes: introduction to preventive dentistry, third party payment systems, group practice, auxiliary utilization, specialization, consumer demands, and career alternatives within dentistry.

512 Environment of the Dental Profession. LH-2; CI H-2. II. Preventive services and health education projects are developed and implemented by groups of students at a variety of community health sites. Students undergo an in depth study of selected topic areas in seminars related to community dentistry goals.

522 Dental Auxiliary Utilization. LH-2. II. A study of the interrelationships of the dentist, dental auxiliaries, and the control of dental practice. Special emphasis is placed on the utilization of a full-time, chairside dental assistant.

524 Patient Behavior and the Practice of Dentistry. LH-8; SH-5. The principles and dynamics of human

relationships in dentistry are examined through lecture, discussion, and practical application. Social and psychological components of the dentist-patient relationship and their consequences for dental practice are analyzed. The course emphasizes the students' interpersonal relationships with colleagues, auxiliaries, and patients.

525 Human Nutrition. LH-1. I. The course is designed to give the student a practical approach to nutrition today which he can utilize both in his practice of dentistry as well as in his own lifestyle. The course is not designed to make the student an expert in nutrition, nor is it expected that the student become one. Rather, the course demonstrates the basic principles of good nutrition and how chronic and, in some cases, acute violation of these principles will lead to, or contribute to, the etiology and progression of oral disease.

527 Extramural Rotations. CI H-36. II. Students participate in daily clinical rotations at a variety of dental care programs including child and youth centers, rehabilitative programs for the handicapped, nursing homes, youth and adult correctional facilities, and local departments of health. Students study the administration, organization, and financing of the programs and provide diagnostic, educational, and preventive services to traditionally underserved patients.

532 Practice Administration. This course is an introduction to the management of the dental practice. Special emphasis is placed on processes of establishing the practice and managing it for the first few years. The financial area includes topics such as budgeting, securing capital and evaluating its cost, interpretation and analysis of financial statements, and income tax considerations. The human relations area includes topics such as securing, evaluating, and motivating personnel; dimensions of leadership; and effective communications.

539 Preventive Clinic. The objectives of a clinical preventive dentistry program are broad in scope and are not necessarily limited to the confines of preventing caries and periodontal disease. Rather, the prevention of oral disease should be viewed as a fundamental link in the total health care of the patient. The objectives of this program begin with the early recognition of a health problem—then diagnosis. After the diagnosis has been achieved, a realistic plan of action can be formulated—the treatment plan. Finally, the preventive treatment plan can be integrated into the overall treatment of the patient. The general goal of this program is to place emphasis on the early diagnosis and prevention of disease, rather than on the treatment of its ultimate consequences.

547 Extramural Community Program. CI H-120 (minimum of four weeks). I, II. A four-week community and clinically based program for fourth year dental students. The rotations permit students to apply and further develop their clinical skills in settings remote to the dental school. Each remote site involves the student in meeting and managing the dental health needs of the area while developing a better understanding of the general needs, beliefs, and behaviors of the environment.

549 Dental Auxiliary Utilization. CI H-60 total. I, II. PR: CMD 522. A clinical application of didactic princi-

ples related to the utilization of a full-time, Chairside dental health team.

NOTE: Students may have to provide their own transportation and assume other expenses that may be incurred.

Division of Dental Hygiene (DEH)

Associate Professor: Dinius (Director)

Assistant Professors: Kaugars; Mozes; Spence; Wooten

Assistant Clinical Professor: Halliday

Clinical Instructors: Brooks; Hendricks; Morris; Tucker

301 Dental Hygiene I. LH-2, Lab H and CI H-7; SH-4. I. The introduction to clinical knowledge and skills for the performance of dental hygiene services. Included is an introduction to professional ethics with a survey of the history of dentistry and dental hygiene and the various specialty areas of dentistry.

302 Dental Hygiene II. LH-3, Lab H-3, CI H-8; SH-6. II. PR: DEH 301. Clinical performance of basic dental hygiene services. Included is didactic and clinical instruction in uses and techniques of dental radiology. Assignment in dental specialty areas is part of this course also and specific instruction is provided for introducing the student to basic principles of chairside dental assisting.

312 Community Dental Health I. LH-3; SH-3. II. A course covering materials, methods, and principles of instruction in health education and communication with emphasis on oral health and the relationships to clinical and community oral hygiene. Instructional and communication skill building is included. Practical experience is provided and specific projects are assigned.

401 Dental Hygiene III. LH-1, CI H-20; SH-6. I. PR: DEH 302. A continuation of clinical practice introducing advanced techniques for performance of dental hygiene procedures. Assignment in dental specialty areas is included, and experience with special needs patients is provided.

402 Dental Hygiene IV. LH-1, CI H-16; SH-5. II. PR: DEH 401. A continuation of clinical performance emphasizing preparation for practice of clinical dental hygiene. Time is allotted for students to pursue individual projects related to clinical dental hygiene.

411 Community Dental Health II. LH-3; SH-3. I. PR: DEH 312. An introduction to principles of public health emphasizing the role of dentistry and dental hygiene. Included is the role of federal, state, and local governments in the delivery of health care. Field trips are arranged to augment the course material.

412 Community Dental Health III. CI H-8; SH-4. II. PR: DEH 411. Practical application of principles of dental public health through supervised experience in the community.

422 Dental Hygiene Seminar I. LH-2; SH-2. II. Ethics, jurisprudence, and principles of dental hygiene practice. Included is a study of state practice acts and examining

boards, dental hygiene education curriculum development, dental team relationships, office management, and third party dental care systems.

432 Dental Hygiene Seminar II. LH-1; Lab H-3; SH-2. II. This course will increase knowledge or skill in areas of clinical dental hygiene: periodontics, endodontics, restorative dentistry, occlusion, and maxillofacial prosthodontics. These will be presented in a lecture, demonstration, and laboratory format utilizing handouts, slide presentations, and video tapes.

442 Dental Hygiene Seminar III. LH-2; CI H-8 total; SH-2. II. Introduction to basic principles of clinical dental hygiene course development and of clinical supervision. Practical experience in clinical supervision of students is included.

Electives Courses meeting specific needs and interests of students may be elected in the Schools of Dentistry, Basic Sciences, Business, Arts and Sciences, and Education.

Department of Endodontics (END)

Associate Professor: England (Chairman)

Assistant Professors: Holcomb; West

Assistant Clinical Professors: Bussey; Golka; Haber; Hake; Hill; Lance; Lowe; O'Keefe

Clinical Instructor: Calhoun

521 Principles of Endodontics. LH-1; Lab H-2. I. The prevention, diagnosis, and treatment of injuries and diseases of the dental pulp and periapical tissues are studied. Self-paced learning is emphasized in the cognitive and psychomotor phases of the course. Progress is determined by proficiency and written examinations.

531 Clinical Endodontic Therapy. LH-15. A lecture format is used to explore the following topics: basic principles of endodontic diagnosis; mechanisms of pulpal and periapical pain; emergency treatment including trauma, pulp capping, surgery, implantation, replantation, and transplantation; dental caries and their sequelae; apexification procedures.

549 Clinical Endodontics. CI H-87.5 total. Each third- and fourth-year student has the opportunity to perform clinical endodontic therapy on a number of patients to demonstrate his proficiency in diagnosis and emergency treatment of pulpal disease, pain control, and conservative endodontic therapy. This is a two-year clinical experience. A final grade is rendered at the end of the second year.

Division of Occlusion (OCC)

Associate Professors: Butler (Chairman); Bush

Assistant Professor: Abbott

512 Occlusion I. LH-1; Lab H-1; CI H-1. II. The goal of this course is to provide an understanding of the anatomy of the masticatory system, the border range of mandibular movement, terminology of occlusion, making of dental casts, and articulation on a semi-adjustable articulator and static occlusal analysis.

521 Occlusion II. LH-2; Lab H-3. I. The goal of this course is to provide an understanding of the neu-

rophysiology and kinesiology of mandibular movement; physiology of mastication and deglutition; determinants, philosophies, and pathology of occlusion; bruxism; jaw dysfunction syndrome; differences between natural and prosthetic dentition; construction of bite-plane; occlusal adjustment; screening and dysfunction examinations; symptomatic therapy; and sequencing of treatment.

Department of Oral Pathology (ORP)

Professors: Elzay (Chairman); Salley; Syrop
 Director, Division of Radiology: Abbey
 Director of Admittance and Emergency Clinic: Svirsky
 Director, Division of Dental Records: Syrop
 Associate Professor: Abbey
 Associate Clinical Professors: Filipowicz
 Assistant Professors: Burns; Page; Svirsky
 Assistant Clinical Professors: Carr; Stone
 Clinical Instructors: Hoffarth; Jones; Kaugars; Marks; Martin; Redwine

301 General Pathology. (Dental Hygiene) LH-1. I. Instruction in the basic principles regarding alteration of the structure and function of disease in the organ systems.

511 Survey—Part I. LH-7 total. II. A lecture-demonstration course covering the fundamentals of radiology as applied to dental practice, emphasizing principles of radiation, physics, techniques of producing and developing intraoral radiographs, and interpretation of normal structures.

515 Survey—Part II. LH-7 total. II. This course is designed to acquaint the student with oral and paraoral examination procedures.

522 Oral Pathology. LH-2; Lab H-14 total. II. A study of the histomorphologic, clinical, and radiographic manifestations of diseases of the hard and soft oral and paraoral tissues.

524 Oral Pathology (Dental Hygiene). LH 2. II. A study of the histomorphologic, clinical, and radiographic manifestations of diseases of the hard and soft oral and paraoral tissues.

532 Oncology. LH-7. II. This course reviews all aspects of oncology viewed from a multidisciplinary approach. Lecturers include a surgical pathologist, medical oncologist, radiotherapists, a surgeon, and a maxillofacial prosthodontist.

534 Management of Oral Pathosis. LH-1. II. The student is provided the opportunity to gain proficiency in the collection of descriptive diagnostic data, sufficient to develop a rational pathway for the recognition of disease entities and their effective therapeutic considerations.

537 (01) Radiology Rotation. H-48 total. On assignment.

547 (01) Emergency and Screening Rotation. H-36. On assignment.

547 (02) Oncology Rotation. H-8. On assignment.

Department of Oral and Maxillofacial Surgery (ORS)

Professors: Bear (Chairman); Ackell
 Clinical Professors: Peters; Smith
 Associate Professor: Alexander; Campbell; Shipman (maxillofacial prosthodontist)
 Assistant Professor: Mercuri
 Assistant Clinical Professors: Bissell; Clough; Cuttino; Dionne; Green; Hoard; Isbell; Malbon; Schwartz; Tankersley
 Instructor: Hall

522 Oral Surgery I. LH-1. II. The course is designed to correlate the basic science knowledge of the student with the clinical science of oral and maxillofacial surgery relative to the basic concepts of oral surgery such as the evaluation of the pre-surgical patient, the uncomplicated and complicated removal of teeth, and preparation of the mouth for reception of a prosthesis.

533 Oral Surgery II. LH-1. I. LH-2. II. Lecture and clinical course on the detailed principles and techniques of oral surgery. Oral surgical procedures are discussed covering the full scope of the discipline designed to improve the student's surgical skill and diagnostic abilities in the area of oral and maxillofacial surgery in dental practice. The course also includes a one week rotation on the oral and maxillofacial surgery service of the Dental School Clinic.

549 Oral Surgery Rotation III. Expansion of previous clinical experiences are provided as an extern on the MCV Hospitals oral and maxillofacial surgery service for two full weeks. Expanded responsibility is given the student for hospital inpatient care, assisting the surgical housestaff, performing emergency care, and helping the operating room team.

Department of Orthodontics (ORT)

Professor: McIver (Chairman)
 Associate Clinical Professor: Hamer
 Assistant Professors: Anderson; Diaz; Schwartz, I.
 Assistant Clinical Professors: Cavedo; Comer; DuVall; Gills; Kaplan; LeHew; Waitkus; Williams; Zechini

521 Orthodontics. LH-1; Lab H-1. I. This laboratory course is an introduction to the mechanical principles of orthodontics. The student develops skill in manipulating the materials of orthodontic appliance construction. The design of appliances for specific malocclusions are demonstrated. Limited didactic material is offered to introduce the diagnostic aspect of this speciality.

522 Orthodontics. LH-1. II. Fundamental knowledge in facial and dental growth in relation to orthodontics is presented. Both normal and abnormal *dentofacial development* is included. The basic principles of orthodontic diagnosis and treatment are given.

533 Orthodontics. LH-7; total 1. II. PR: ORT 521 and 522. Deals with the diagnosis and treatment of dental malocclusion. The material presented is to aid the student

in acquiring judgement to evaluate the severity of specific malocclusions, and to determine the treatment requirements in individual cases. The theories and methods of corrective orthodontics are surveyed.

549 Clinical Orthodontics. CI H-60 total. CR: ORT 533. This clinical phase of the orthodontic curriculum extends from the second semester of the D-2 year through the first semester of the D-4 year. This phase is for the diagnosis and treatment planning of orthodontic patients as well as for treatment. Both children and adults are selected for treatment.

Department of Pedodontics (PED)

Associate Professor: Farrington (Chairman); Sorenson

Assistant Professors: Brownstein; Leech; Mourino
Assistant Clinical Professors: Allen; Avent; Bennett; Heltzel; Keeton; Waitkus; Wolfe; Wood
Instructors: Kendig; McCorkle
Clinical Instructors: Addington; Boggs; Callery; Masters; Wilkinson

512 Growth and Development of Children. LH-1. ii. A lecture course presenting an introduction to the basic elements of physical and behavioral development of children from birth to adolescence. Normal and abnormal aspects of development are discussed as well as common emotional problems of childhood.

522 Pediatric Dentistry II. LH-1; Lab H-3; CL H-12 total. PR: RED 521 and ORT 521. A lecture and laboratory course designed to acquaint the student with the examination, diagnosis, treatment planning, and management of the pedodontic patient. This includes child behavioral management, modification of basic examination, restorative, pulp therapy, oral surgical, and preventive techniques as they apply to providing comprehensive care for the child.

533 Pediatric Dentistry III. LH-2. I, II. PR: PED 522. An in-depth study of the current modalities of providing comprehensive dental care for children and adolescents. Special emphasis is placed on prevention, diagnosis, and treatment of patients with traumatic injuries, developing malocclusions, untimely tooth loss, interceptive orthodontics, anomalies of the dentition; inpatient and outpatient hospital care for pediatric dental patients; treatment of the handicapped and chronically ill child and adolescent.

549 Clinical Pediatric Dentistry. CI H-210 total. Comprehensive experience in clinical pediatric dentistry emphasizing comprehensive diagnosis and treatment planning of restorative and interceptive orthodontic cases and the treatment of child and adolescent patients with abnormal behavior, developmental disabilities, or chronic disease. This clinical course extends over a two year period and completion of this course is dependent on the student's meeting the minimal clinical expectations of the department.

Department of Periodontics (PER)

Professors: Kennedy; Ranney
Clinical Professors: Maynard; Wilson

Associate Professors: Palcanis (Chairman); Dorfman; Ormes; Rutherford

Assistant Professors: Burmeister; Frantzis; Ries; Schenkein; Sweeney

Assistant Clinical Professors: Bird; Brill; Cavallo; Drescher; Howe; Loving, R.; Moss; Singdahlsen; Ziegler

Clinical Instructors: Camden; Loving, C.

310 Periodontics for Dental Hygiene Students I (Dental Hygiene). LH-1; SH-1. II. This course is presented in the spring semester of the dental hygiene students' enrollment. It is designed to provide an understanding of the clinical appearance of the periodontal structures in health and disease, the prominent microscopic features of the periodontium and periodontal diseases, and the nature of causative factors in periodontal disease at a level appropriate to the needs of the future dental hygienist (enrollment limited to dental hygiene students).

411 Periodontics for Dental Hygienists II (Dental Hygiene). LH-2. I. This course presents evaluation and treatment of the patient with periodontal disease. The student is expected to develop an understanding of examining and charting a patient to include gingival findings, osseous findings, diagnosis, case type, prognosis, etiology, and treatment planning. The student is expected to develop an understanding of the indications, contraindications, and predictability of all types of periodontal therapy: initial, surgical, emergency, and maintenance.

512 Anatomy, Physiology, and Pathology of the Periodontium (Dentistry). LH-2. II. This first course in the didactic sequence in periodontology is designed to acquaint the student with the structure and biology of the periodontium, the clinical appearance of the normal periodontium, and the clinical and histopathologic signs of periodontal diseases.

520 Fundamentals of Periodontal Instrumentation (Dentistry). LH-1. I. This course is designed to offer the student an organized approach to instruction in basic periodontal instrumentation, to provide an opportunity to gain additional knowledge and psychomotor development in basic clinical periodontal procedures, and to develop an acceptable level of instrumentation proficiency prior to the student's clinical experience.

521 Etiology and Epidemiology of Periodontal Disease. LH-2. I. The student is provided an opportunity to acquire present understanding of the etiology of periodontal disease and the role which bacterial, host, iatrogenic, etc., factors may play. The various indices used to assess periodontal disease and the epidemiologic characteristics of periodontal diseases are also presented.

522 Diagnosis and Treatment Planning for Periodontal Therapy. LH-2. The student is provided with information on how to arrive at appropriate diagnoses of periodontal conditions, establish prognosis, and plan appropriate treatment for establishing and maintaining health of the periodontium.

531 Periodontal Therapy (Dentistry). LH-2. The entire scope of periodontal therapy is presented by means of

lectures, demonstrations, self-instructional material, and outside reading. Emphasis is placed on that aspect of periodontics vital to the general practice of dentistry, the relation of periodontics to other areas of dentistry as well as the rationale and biologic principles underlying periodontal therapy.

549 Clinical Periodontics. CI H-180 total. The opportunity is provided during the junior and senior years to gain experience in treating patients with periodontal disease. Each student is expected to complete approximately five cases of patients with periodontal disease of varying severity.

Department of Removable Prosthodontics (REP)

Professor: Bell (Chairman)
Associate Professors: McCasland; Smith; Ward
Associate Clinical Professor: Finnegan
Assistant Professors: Cade; Crabtree; Guilford; Revere; Tsao
Assistant Clinical Professors: Eubank; Gayle; Kolb; Rose; Tregaskes
Clinical Instructors: Kessler; Wiedeman

523 Preclinical Complete Denture Prosthodontics. LH-1; Lab H-5. II. A lecture and laboratory course in the laboratory procedures involved in complete denture construction. The student accomplishes the steps involved in the construction of a complete maxillary and mandibular denture for a manakin patient.

525 Preclinical Removable Partial Denture Prosthodontics. LH-1; Lab H-5. I. The basic concepts and techniques related to the design and construction of removable partial dentures with extra-coronal clasp type direct retainers are presented by lecture and seminar. The laboratory portion of the course provides the student an opportunity to perform the steps required to produce a removable partial denture framework. Communication with the dental lab technician is presented.

533 Complete Denture Prosthodontics. LH-1. I and II. PR: REP 522. A lecture course presenting the principles, procedures, and rationale involved in the diagnosis, treatment, and maintenance of patients requiring complete dentures.

535 Removable Partial Denture Lecture. LH-7. I, II. Advances the study of partial denture design.

549 Section 01. Clinical Complete Denture Prosthodontics. CI H-90 total. In this course the student will make clinical application of the principles, techniques, and procedures involved in the treatment and maintenance of patients requiring and using various types of complete dentures. The student is expected to treat a specified number of complete denture patients during the clinical (junior and senior) years. Credit for the course will be given upon the satisfactory completion of the basic minimum expectations. The course may be completed in either the junior or senior year.

549 Section 02. Clinical Removable Partial Denture Prosthodontics. CI H-90 total or until completed. PR:

REP 532. A clinical course in which the student will apply the dental arts and sciences in the examination, evaluation, treatment planning, prosthesis design, treatment, and maintenance of patients requiring removable partial denture service. The student is expected to treat a specific number of removable partial denture patients during the clinical (junior and senior) years. Credit for the course will be given in the senior year.

Department of Restorative Dentistry (RED)

Professors: Burke; Crockett; Knapp (Chairman)
Associate Professors: Eshleman; Jones; Moon; Shepard; Wittrock
Director, Division of Crown and Bridge Prosthodontics: Eshleman
Director, Division of Dental Materials: Moon
Director, Division of Operative Dentistry: Crockett
Associate Clinical Professor: Fitzhugh; Hudson; Ortiz
Assistant Professors: Barnes; Button; Douglas; Harrington; Schroeder
Assistant Clinical Professors: Beall; Covington; Flippen; Huband; Hubbard; Perkinson; Rogers; Webb; Wilson
Clinical Instructors: Belt; Brokaw; Brown; Counts; Crist; Crockett, W.G., Jr.; Dent; Edmundson; Felthousen; Green; Jenkins; King; Logue; McMunn; Rubis; Russo

302 Dental Materials. (Dental Hygiene) LH-1, Lab H-3, II. A study of the composition, uses, preparation, and manipulation of materials used in restorative dentistry.

311 Dental Anatomy. (Dental Hygiene) LH-2, Lab H-3. I. A study of the form and function of the teeth and their related structures. Included are laboratory assignments in tooth identification.

511 Dental Anatomy. LH-3; Lab H-3. I. A didactic and laboratory study of the morphology of the human dentition and its related structures. An introductory study of dental materials and occlusion.

512 Restorative Dentistry I. LH-1; Lab H-3. II. A didactic and laboratory course dealing with dental caries, tooth preparation, and the insertion of the appropriate single-surface restorations. Dental materials pertinent to this course are also studied.

514 Introduction to Principles of Occlusion. LH-1; Lab H-2. II. A didactic and laboratory course that introduces the various factors involved in the occlusion of natural teeth, the principles of an arrangement of optimum occlusion, and technical exercises to develop quadrants of posterior teeth to occlude in an optimum manner with an opposing natural dentition.

521 Operative Dentistry. LH-1; Lab H-3. II. A didactic and laboratory course dealing with dental caries, tooth preparation, and the insertion of the appropriate multi-surface restorations. Dental materials pertinent to this course are also studied.

522-531 Crown and Bridge Technic Course, I and II. LH-3; Lab H-9. II, I. The didactic portion consists of

theory and concepts related to prevention, diagnosis and treatment planning, and the restoration of the dentition. The laboratory phase provides experiences in the preparation and restoration of teeth and the fabrication of fixed prosthesis. (Continues through the first semester of the junior year.)

533 Restorative Dentistry. LH-2; I, II. The series of lectures will emphasize diagnosis and treatment planning, recent developments in restorative dentistry, and complex restorative procedures.

549 Clinical Restorative Dentistry. CI H-360 total. The course consists of clinical experiences in diagnosing, treatment planning, and the performance of restorative treatments on clinical patients.

PART IV—School of Pharmacy

Warren E. Weaver, B.S., Ph.D.

Dean

Graham C. Windridge, Pharm.D., Ph.D.

Assistant Dean

Werner Lowenthal, B.S., M.S., Ph.D.

Director of Continuing Education

When the Medical College of Virginia opened its doors on November 5, 1838, pharmacy was taught as a part of the medical course. Although the General Assembly of Virginia amended the charter in 1879 to permit MCV to confer the degree of graduate of pharmacy upon properly qualified individuals, college records indicate that there were two graduates in pharmacy as early as 1876.

The School of Pharmacy of the Medical College of Virginia of Virginia Commonwealth University, was officially established in 1898; the University College of Medicine had a school of pharmacy when it opened in 1893. The two-year curriculum gave way to a three-year program in 1925, and in 1932 the school required four years of college work for which a B.S. degree was awarded. In 1960 the program was lengthened to the current five-year course leading to a Bachelor of Science in Pharmacy degree. In 1975, authority was granted to offer to selected students a six year program leading to the Doctor of Pharmacy degree.

The authority to award graduate degrees in the pharmaceutical sciences was granted by the Graduate Council in 1952. Departments

in the school currently direct work leading to the M.S. and Ph.D. degrees in pharmaceutical chemistry and pharmaceutics.

In few states are pharmacists educated better than in Virginia. This is the only institution in the state offering work in pharmacy; and students in the school of medicine, dentistry, pharmacy, nursing, and other health professions share alike in its teaching facilities. Since 1971, all senior pharmacy students have participated in a clerkship program during their last semester. Students in the baccalaureate program serve clerkships of approximately four weeks within the Medical College of Virginia Hospitals working directly with patients and their drug therapy programs, approximately eight weeks in a community pharmacy and a hospital pharmacy under the training and guidance of selected preceptors, and approximately four weeks in elective programs. Students in the Doctor of Pharmacy program participate in more extensive clerkships and in research projects to investigate methods for improving pharmaceutical services. Supervision of students in the hospitals is under the direction of the Department of Pharmacy and Pharmaceutics.

PHILOSOPHY

In developing the curriculum of the School of Pharmacy, the faculty recognizes that an educated man or woman should be prepared

to assume a responsible and rewarding role in society. The program of education is designed to provide a sound, scientific, and professional background for both those who will enter the practice of pharmacy directly and those who wish to continue graduate education in the pharmaceutical sciences. The program of study includes as much of the arts and humanities as possible in order to provide the student with a broad educational base which will permit participation in community life, not only as a professional, but also as an informed, concerned citizen. Such courses also contribute to enrichment of the student's life by stimulating in the student a greater appreciation of the cultural values and problems of our society.

Additionally, the program endeavors to orient the student to the problems and needs of urban life in our nation and in the Commonwealth of Virginia in particular.

OBJECTIVES

The primary objective of the School of Pharmacy is the education of men and women who seek to enter health service work in one of the several areas of pharmaceutical practice.

The School of Pharmacy seeks to provide an environment in which sound teaching and learning are promoted and excellence in achievement in the classroom, laboratory, and clinical setting is stressed. The same ideals have been maintained in our clerkship program in extending the student's learning experiences off campus and into selected community and hospital pharmacies.

The School of Pharmacy is cognizant of its responsibility to add new knowledge in the pharmaceutical and related sciences and endeavors to do so by promoting and encouraging research and graduate education in these sciences.

An appreciation of professional ethics and the concept of service are stressed throughout the years of professional education.

The School of Pharmacy recognizes its responsibility to foster continuing education for practicing pharmacists and to offer programs for the benefit of such practitioners.

To obtain the primary objective, the School of Pharmacy strives to:

- A. Provide the necessary environment for the student to acquire a fundamental

knowledge and understanding of the pharmaceutical and basic medical sciences and the essential skills related to the practice of pharmacy.

- B. Develop in the student attitudes of professional responsibility and concern toward the community, fellow human beings, and colleagues in other health professions; and
- C. Establish in the student habits of and the desire for professional improvement through continued self-education and participation in formalized programs of continuing education.

CAREER OPPORTUNITIES

Everyone is familiar with the neighborhood or community pharmacy and has a general idea of how the pharmacist who is there serves the public. In many areas, pharmacies may be part of a large chain, or they may be owned and managed by independent practitioners. In some cases, pharmacies specialize only in prescription and other health-related needs. About nine out of every 10 pharmacists practicing in America serve in some capacity in community pharmacy.

One of the most rapidly growing areas of pharmaceutical practice is institutional or hospital pharmacy. Almost all major hospitals have one or more full-time pharmacists, and in most cases every hospital has a consulting pharmacist. With the great emphasis on institutional medicine, the demands for pharmacists in this area of practice have grown tremendously in the past few years.

Other pharmacists serve as medical service representatives who call on physicians for major pharmaceutical manufacturers. An additional group of pharmacists is involved in manufacturing operations and in research activities associated with the production of pharmaceutical products. Opportunities are also available in various government services, including the Public Health Service and Veterans Administration, as well as in government-operated laboratories.

In most cases, those who engage in independent research or in teaching seek graduate degrees in specialty fields related to pharmacy.

FUTURE PLANS

The School of Pharmacy recognizes two major situations that affect the delivery of adequate pharmaceutical services to the citizens of the Commonwealth of Virginia. In the first instance, the ratio of pharmacists to the population of Virginia is among the lowest of all states in the southeast region. Secondly, the role of the pharmacist is progressing rapidly toward a patient-oriented service as a member of the total health care team.

In order to educate and to train a sufficient number of pharmacists to deliver modern pharmaceutical service, now and in the future, plans call for a new pharmacy building and additional faculty. Furthermore, the curriculum is under continual surveillance to ensure that it produces well-educated pharmacists who can function in a clinical environment.

The pharmacists' needs for a readily available and broad continuing education service is recognized. Resources and facilities of the institution are being expanded and made available to an increasing number of pharmacists and other health professionals. A drug information center has been established for the purpose of providing authoritative information on drug therapy.

The School of Pharmacy continues its efforts to enroll academically qualified men and women through recruitment at all two-year and four-year colleges in Virginia. Particular efforts are made to attract qualified minority applicants.

FACILITIES

The principal departments of the School of Pharmacy are in McGuire Hall and McGuire Hall Annex located at Twelfth and Clay Streets. McGuire Hall was built in 1912 by the University College of Medicine and the annex was built in two phases; the first completed in 1955 and the second in 1958. In addition, a nutriceutic laboratory is located on the roof of the first annex and houses research activities in pharmacognosy. This laboratory was built by the American Tobacco Company and donated in 1968 to the school.

Classes for students in pharmacy are also conducted in Sanger Hall, located between Eleventh and Twelfth Streets on East Marshall Street. This building houses several basic science departments and the administrative

offices for the MCV Campus of Virginia Commonwealth University. The principal areas occupied by the hospital pharmacy are located in the A. D. Williams Memorial Clinic at Twelfth and Marshall Streets and in the North Hospital at Thirteenth and Marshall Streets. Students receive clinical experience in the MCV Hospitals. Other facilities available for teaching include area hospitals and pharmacies. The major library holdings are in the Tompkins-McCaw Library at Twelfth and Clay Streets.

ACCREDITATION

The Bachelor of Science program is accredited by the American Council on Pharmaceutical Education. The school is a member of the American Association of Colleges of Pharmacy.

PROGRAMS

Undergraduate. The degrees, Bachelor of Science in Pharmacy (B.S. Pharm.) and Doctor of Pharmacy (Pharm. D.) are conferred upon any student who complies with all of the academic requirements and university regulations concerning degrees and is approved by the faculty of the School of Pharmacy.

Graduate. Departments in the school offer programs of graduate study leading to the degrees of Master of Science (M.S.) and Doctor of Philosophy (Ph.D.). Students may specialize in biopharmaceutics, pharmaceutical chemistry, and product development.

Interested students with graduate study potential should consult with the appropriate department chairman. Information on procedures and policies for graduate studies are given on page 105.

LICENSING AND RECIPROCITY

The Virginia Board of Pharmacy holds two meetings for examination each year, in November and in June. Applicants for examination as licensed pharmacists must present evidence that their first professional degree was granted by a school of pharmacy recognized by the board. This school is among those recognized.

To be licensed as a pharmacist in Virginia, an applicant must present to the Virginia Board of Pharmacy evidence of six months of satisfactory experience in pharmacy under the

direct supervision of a pharmacist, four months of which is gained by completion of the third professional year clerkship program. Experience is not a requirement for graduation in pharmacy from Virginia Commonwealth University.

A student who intends to qualify for reciprocity must, at the time of licensure in Virginia, present to the Virginia Board of Pharmacy evidence of nine months of satisfactory experience under the direct supervision of a pharmacist. License by reciprocity is available in every state of the United States except California, Florida, and Hawaii.

Those students who intend to be licensed in Virginia should contact the Virginia Board of Pharmacy, Seaboard Building, Suite 479, 3600 West Broad Street, Richmond, Virginia 23230.

ADMISSION REQUIREMENTS - B.S. PROGRAM

A. The Bachelor of Science in pharmacy degree is based upon satisfactory completion of five academic years in college. Candidates for admission to the School of Pharmacy must attend an accredited college for two academic years (six quarters or four semesters) prior to admission. To receive a degree in pharmacy, a minimum of three academic years' residence is required in the School of Pharmacy even if the student has attended college elsewhere for more than two academic years.

B. A statement of good moral character signed by one or more pharmacists, physicians, or former teachers may be requested by the Admissions Committee.

C. An official high school transcript and official transcripts from all colleges previously attended are required. Applications are considered by the Admissions Committee only when transcripts showing completion of three semesters or four quarters of work have been received. Acceptances are offered contingent upon satisfactory completion of specific work that may be in progress, if all other aspects of the application are satisfactory.

D. Academic Prerequisites. Applicants must offer the required credits in the following subject areas for a total of at least 63 semester hours.

	Semester Hours	Quarter Hours
Biology (botany and zoology)	8	12
General Chemistry	8	12
Physics	8	12
English	6	9
Mathematics	6	9
Economics	3	4.5
Electives	24	36
TOTAL	63	94.5

In order to satisfy the mathematics requirement, applicants must offer credits in college level algebra and trigonometry, and are urged to complete at least one semester of calculus. Applicants who satisfied the algebra and/or trigonometry requirements before entering college must still offer six college credits in mathematics.

In general, elective requirements should be met by courses from the non-science, non-business areas such as the humanities, social sciences, and liberal arts. However, up to six of the 24 hours of electives may be satisfied by additional credits in biology, physics, mathematics, or economics. Credits in physical education or organic chemistry are not acceptable.

E. Applicants must have earned a creditable average ("C" or better) overall or in the courses specified to meet minimum academic requirements for admission.

F. Applicants for admission must furnish a completed application form; this form requires that the names of four individuals be given, including at least two teachers (preferably in the sciences) qualified to give an estimate of the applicant's ability for carrying out the work in pharmacy. These reports must recommend the applicant for admission.

G. The dean and the committee on admissions may require a personal interview with the applicant.

H. Applicants are urged to take the Pharmacy College Admission Test in the fall or winter preceding admission.

I. Students are admitted in August only. Applications for admission must be received by January 15, and all supporting materials by March 1. Outstanding applicants may be eligible for an early acceptance provided that all admissions materials are received by December 15.

J. Students planning to enter an accredited college upon high school graduation should plan their high school programs to meet the requirements for admission in the college where they will take the prerequisite work for admission to pharmacy. High school programs rich in mathematics and the sciences are excellent preparation for the study of pharmacy.

K. Further information and application materials are obtained by writing: Chairman, Admissions Committee, School of Pharmacy, Medical College of Virginia, Virginia Commonwealth University, MCV Station, Box 581, Richmond, VA 23298.

ADMISSION REQUIREMENTS—DOCTOR OF PHARMACY PROGRAM

At the present time, applications are being considered only from those applicants who have received the B.S. degree in pharmacy or who will receive it prior to enrollment in the program. An integrated program has been authorized but will not be offered prior to revision of the baccalaureate curriculum. Information concerning other admissions requirements can be obtained by writing to the Chairman, Pharm. D. Admissions Committee, at the above address.

CURRICULUM-B.S. PROGRAM

FIRST PROFESSIONAL YEAR (THIRD COLLEGE YEAR)

<i>First Semester</i>	<i>Semester Hours</i>
PHC 301	5
PHA 301	5.5
PHA 311	3
ANA 301	4.5
	18

<i>Second Semester</i>	
PHC 302	3
PHA 302	4.5
BIC 302	5.5
PIO 382	5
	18

SECOND PROFESSIONAL YEAR (FOURTH COLLEGE YEAR)

<i>First Semester</i>	
PHA 401	4.5
PHA 413	3
PHC 403	3
PMC 403	4
MIC 401	4.5
	19

<i>Second Semester</i>	
PHA 432	4
PHA 442	3
PHC 404	4
PHC 410	4
PMC 404	4
	19

THIRD PROFESSIONAL YEAR (FIFTH COLLEGE YEAR)

First Semester

PHA 501 or	4
PHA 552	3
PHA 511	5
Electives	9
	17-18

Second Semester

PHA 512	17
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In the first semester of the third professional year, students will select either PHA 501 or PHA 552, and additional electives.

In some instances, students in the third professional year may be obliged to travel and reside some distance from Richmond as a part of the program. No refund of payments for tuition, fees, or other purposes may be expected by the students in this event, if credit is granted for the time spent in this phase of the program. No stipends may be earned by the students in connection with any professional practice program for which the school grants credit. The clerkship program is 17 weeks long and covers the second semester including the week of the spring semester break.

PHARM. D. CURRICULUM

The Doctor of Pharmacy curriculum has the flexibility to adapt to the needs of students from varied backgrounds and differing objectives. In general, a student who has met the requirements of the baccalaureate program will, during four semesters and a summer, complete a minimum of 75 semester hours, including the following required courses, clinical experiences, and research.

PHA 550	4
PHA 562	3
PHA 590	2
PHA 622	3
PHA 633	3
PHA 635	3
PHA 636	3
PHA 637	2
PHA 638	2
PHA 660-679	33
PHA 690	7

ACADEMIC REGULATIONS

Matriculation in the School of Pharmacy implies a willingness on the part of the student to comply with university rules and regulations and to conduct himself in a manner befitting members of the profession he seeks to enter. The program of study and regulations regarding courses of study, student conduct, etc., are subject to modification without notice. All rules and regulations set forth in this

bulletin, as well as other statements issued by administrative officers of the university, apply until further notice.

Probation. Students may be placed on probation by either the Committee on Admissions or the Committee on Promotions. Probation is a notice that the student's scholarship should improve to a level considered to be satisfactory by the faculty. Students are also placed on probation if two deficiencies are incurred in the work of any semester, including both progress and final grades. Students who fail to meet probationary requirements may expect to have their normal progress through school interrupted through attendance at summer school, repeating a year, or being asked to withdraw. Students on probation are not eligible to be nominated for offices in the student government nor to represent the school in athletics or other extracurricular activities. Students on probation are expected to stop or drastically curtail any outside employment. Detailed regulations on probation are sent to all students on probation and are available on request.

Outside Work. Students who complete an academic year and are ranked in the lower half of a class may expect to receive a notice from the faculty that outside work should be curtailed or eliminated. In general, the faculty believes that students should give first priority to their school work. Students able to maintain academic standing are not restricted with respect to outside employment.

Honor Code. All students are governed by the honor code and regulations of the Student Body organization. A detailed description of the Honor Council's rules of procedure is available upon request.

FACULTY ADVISING PROGRAM

One faculty advisor is appointed by the dean for each class in the three professional years of the Bachelor of Science program. Each student in the last two years of the Pharm.D. program has a faculty advisor.

There is a faculty advisor to the Interfraternity Council, as well as an advisor for each of the professional pharmacy fraternities.

Each of the student chapters of professional pharmacy organizations on campus operates with a faculty advisor.

ATTENDANCE REGULATIONS

1. The faculty considers attendance at lectures, laboratories, and other functions a requisite to the successful acquisition of the knowledge and skills required of the professional pharmacist. Hence, the faculty cannot condone absence without good reason from any regularly scheduled educational experience.

2. If a student is absent for unavoidable reasons, he should report this absence to the dean's office within 24 hours after returning to class. Failure to report within the 24-hour period is considered an unexcused absence. The absent student is expected to make up all work which is missed.

3. At the start of each course, the instructor will relate to the class the policy of his department concerning the attendance regulations for that semester. The nature of make-up work in the event of absence will be the prerogative of the instructor.

4. Unexcused absences exceeding one per semester hour will allow the instructor to reduce the earned grade by one level. Further grade reductions at the same rate may be made for succeeding blocks of unexcused absences.

PROMOTION

Attending a pharmacy school is not a right acquired by conforming with the entrance requirements and paying the tuition fees. Tuition fees do not pay for a pharmaceutical education, since part of the cost comes from the state and other sources. It is, therefore, a privilege granted to certain persons that they may be pharmacists for the future. The persons to whom this privilege should be granted are, naturally, those who will make the best pharmacists. It is for this reason that the dean and Committee on Promotions, which is composed of the students' instructors of the year, usually request that a student who has failed to do satisfactory work withdraw. The most careful consideration is given not only to the student's grades but also his or her probity, industry, mental ability, and inclinations, in admitting the student to the school and advancing him or her to a higher class, as well as in requesting the student's withdrawal from the school. The following guidelines are used by the Committee on Promotions.

1. Students who have passed the work of an academic year in a satisfactory manner will be advanced to the next higher class, provided there are no other reasons that make this undesirable.

2. A quality point average of 2.0 or better usually merits promotion if a student has no deficiencies. Students with deficiencies may be permitted to attend summer school or in some instances may be required to repeat at least a portion of a year's work.

3. A student with course deficiencies cannot enter the final year of the program.

4. Students who fail to pass two or more subjects ordinarily are not continued in enrollment, except under unusual circumstances.

5. Students who fail to meet conditions of probation or who have not achieved a satisfactory average may be asked to withdraw or repeat a year's work.

These are not absolute rules, but are guidelines to show the student what action may be taken in a particular case. The dean and the Committee on Promotions remain entirely free to pass upon each case according to its merits.

Criteria for promotion in the Pharm.D. program are available from the School of Pharmacy.

WITHDRAWAL

Students finding it necessary to withdraw from the School of Pharmacy must comply with the requirements stated on page 30.

The dean of the School of Pharmacy will not approve a request for withdrawal until the student has submitted a letter of resignation.

Students withdrawing without approval and failing to check out lockers will be assessed a \$5 checkout charge for each locker in addition to any charges resulting from the need to replenish the contents of the lockers.

GRADUATION

All students recommended for the Bachelor of Science in Pharmacy or Doctor of Pharmacy degrees must be approved by the faculty of the School of Pharmacy.

Candidates for the B.S. degree must meet the following requirements:

1. Be of good moral character.
2. Complete satisfactorily all the required work.

3. Pay all fees.

4. Complete the last year's work for the degree in residence in this school.

5. Be present at the commencement exercises unless excused by the dean in writing.

Candidates for the Pharm.D. degree must meet the following requirements:

1. Be of good moral character.
2. Successfully complete a minimum of 75 semester hours in advisor-approved courses.
3. Maintain an overall grade-point average of 2.5 or greater and a grade-point average of 3.0 or greater in the required (core) curriculum.

4. Complete to the satisfaction of the Research Committee and faculty all phases of a research project including a written report approved by the student's research committee.

5. Complete satisfactorily the minimum number of required clerkship rotations and demonstrate the attainment of minimum competencies.

6. Fulfill all requirements of the university, including payment of all fees, and be present at official commencement exercises unless specific written request is made and permission granted by the dean.

7. Complete all requirements for graduation within four calendar years from the date of admission to the program.

HONORS, AWARDS, AND ORGANIZATIONS

Rho Chi. This national honorary pharmaceutical society established Lambda Chapter at MCV in 1929. Charters for chapters of this organization are granted only to groups in colleges that are members in good standing of the American Association of Colleges of Pharmacy. Eligibility for membership in the society is based on high attainment in scholarship, character, personality, and leadership. Candidates for membership are first eligible for consideration during the second professional year of the pharmacy program.

Lambda Chapter annually awards certificates in recognition of outstanding scholarship to students who have completed the pre-pharmacy and first professional year pharmacy curriculum. Also, Lambda Chapter selects one member of the senior class who is recognized for excellence in scholarship, leadership, personality, and character. The name is in-

scribed on a plaque placed in the School of Pharmacy.

A. D. Williams Awards. One student in each of the first three professional years in pharmacy receives an A. D. Williams Scholarship Award, based upon having the highest academic achievement in the class. The award consists of \$150 plus an engraved certificate.

Virginia Pharmaceutical Association Scholarship Awards. The Virginia Pharmaceutical Association, wishing to encourage scholarship of high order among students of pharmacy, has established three scholarship awards. The first, for \$100 and known as the Wortley F. Rudd Award, is presented to the student with the highest overall average. The second, for \$50 and known as the William G. Crockett Award, is presented to the senior student who earns the highest average in pharmacy courses. The third, for \$50 and known as the Frank P. Pitts Award, is presented to the senior student who earns the highest average in chemistry courses. The names of the recipients are published in the commencement program and the awards are presented at the annual meeting of the Virginia Pharmaceutical Association.

The Merck Award. An award, consisting of the current editions of *The Merck Index* and *The Merck Manual*, is presented to a graduating senior. The award is based on the highest grade point average improvement for the first three professional pharmacy years. One award is presented for each 50 graduates.

The Upjohn Award. A public service achievement award consisting of a plaque and a \$50 stipend is given to the graduating senior who has demonstrated excellence in the type and amount of public service projects participated in while enrolled as a student in the School of Pharmacy.

Student American and Virginia Pharmaceutical Association. Students in the School of Pharmacy have an opportunity to become members of this national and state-affiliated organization. The group meets regularly, presenting programs of interest to the student body.

Student Chapter Virginia Society of Hospital Pharmacists. Pharmacy students who are interested in the practice of hospital pharmacy may become members.

Professional Fraternities. Sigma Tau Alpha and chapters of Phi Delta Chi, Kappa

Psi, and Kappa Epsilon are active within the student body. These fraternities extend invitations, according to the rules of the Interfraternity Council, to pharmacy students to become members. Eligibility for consideration is based upon academic achievement as determined by the Interfraternity Council and the dean's office.

FINANCIAL AID

For information on financial aid, see page 23.

COURSES OF INSTRUCTION Department of Pharmaceutical Chemistry (PHC)

Professors: Kier (Chairman); Andrako; Richard; Smith; Stubbins; Weaver
Associate Professors: Boots; Van't Riet; Windridge
Assistant Professors: Glennon; Rogers; Soine
Instructor: Harvie

301 Organic Pharmaceutical Chemistry. LH-3; Lab H-4; SH-5. I. A study of the chemical and physical properties of aliphatic and aromatic compounds. Fundamental theories and reactions are covered with emphasis on those areas which serve as a basis for organic pharmaceutical chemistry and biochemistry. The laboratory work involves an examination of the physical properties and reactions of functional groups commonly found in medicinal agents.

302 Organic Pharmaceutical Chemistry. LH-3; SH-3. II. PR: PHC 301. A continuation of PHC 301.

403 Organic Pharmaceutical Chemistry. LH-3; SH-3. I. PR: PHC 302. A study of synthetic and natural organic compounds of medicinal and pharmaceutical interest with emphasis being placed on physical and chemical properties and on the relationships between chemical structure and pharmacological activity.

404 Organic Pharmaceutical Chemistry. LH-4; SH-4. II. PR: PHC 403. A continuation of PHC 403.

410 Principles of Pharmaceutical Analysis. LH-2; Lab H-4; SH-4. II. PR: PHC 302. A study of the underlying principles and practical limitations of drug analysis procedures with emphasis on those techniques which are most applicable to the quantitation of drugs in biological fluids. The laboratory work involves familiarization experiments and actual assays employing a variety of chromatographic and photometric procedures. In addition, the students will learn to perform colorimetric and chromatographic identification tests for abused drugs.

421 Medicinal Chemistry for Nurse Anesthetists I. LH-4; SH-4. A review of the principles of organic chemistry and bio-organic chemistry with emphasis on the chemistry of anesthetic agents and adjuvant drugs.

422 Medicinal Chemistry for Nurse Anesthetists II. LH-4; SH-4. PR: PHC 421 or equivalent. A series of

lectures covering the structure-activity relationships, metabolism, mechanism of action, and clinical significance of anesthetic and related agents.

506 Advanced Medicinal Chemistry I. LH-3; SH-3. II. PR: PHC 503. A study of pharmacodynamics, theories relating to drug action, and the general principles of drug design.

511 Physical Chemistry. LH-3; SH-3. I. CR: calculus. A first course in physical chemistry with emphasis on those topics most relevant to the health sciences, including electrolyte solution theory, kinetics, and the physical chemistry of macromolecules.

512 Physical Chemistry. LH-3; SH-3. II. PR: PHC 511. A continuation of PHC 511.

513 Experimental Physical Chemistry. Lab H-4; SH-2. I. CR: PHC 511. The laboratory work includes a number of basic experiments in physical chemistry along with techniques and procedures of special interest to students in the health sciences.

514 Experimental Physical Chemistry. Lab H-4; SH-2. II. PR: PHC 513. CR: PHC 512. A continuation of PHC 513.

521. Drug Assaying. LH-2; Lab H-4; SH-4. I. A consideration of the chemical assaying of U.S.P. and N.F. preparations, including synthetic and naturally occurring drugs.

526 Research Techniques in Pharmaceutical Chemistry. LH-O-2; Lab H-2-8; SH-1-4. II. The theory and application of classical and instrumental techniques used in pharmaceutical research are presented.

590 Pharmaceutical Chemistry Seminar. LH-1; SH-1. I, II. In addition to reports that are presented by students, staff, and visiting lecturers, current problems and developments in pharmaceutical and medicinal chemistry are discussed.

607 Advanced Medicinal Chemistry II. LH-3; SH-3. I. PR: PHC 506. A study of the structure-activity relationships and mode of action of selected groups of drugs.

622 Stereochemistry. LH-2; SH-2. II. A study of the number and kinds of stereoisomers of organic compounds, the differences in chemical and physical properties between stereoisomers.

632 Heterocyclic Chemistry. LH-3; SH-3. II. A series of lectures covering a number of the more important heterocyclic systems.

650 Special Topics in Pharmaceutical Chemistry. LH-1-4; SH-1-4. I, II. Lectures, tutorial studies, and/or library assignments in selected areas of advanced study not available in other courses or as a part of the research training.

681 The Ultracentrifuge. LH-2; SH-2. I. The optical systems of the ultracentrifuge are discussed, as well as the applications of the ultracentrifuge in the study of the properties of macromolecules such as proteins and nucleic acids.

690 Research in Pharmaceutical Chemistry. SH-1-15. I, II. Research leading to the M.S. or Ph.D. degree.

Other graduate courses suitable for credit towards an advanced degree are listed in the offerings of the Department of Chemistry in the *VCU Graduate Studies Bulletin*.

Department of Pharmacy and Pharmaceutics (PHA)

Professors: Barr (Chairman); Lowenthal; Stepka; Wood

Associate Professors: Fiske; Garrettson; Hirsch; Kline; McKenney; Pierpaoli; Reinders; Salter; Smith; White, C.E.

Assistant Professors: Cessna; Dodini; Garnett; Hayes; Myers; Polk; Preston; Small; Stratton
Assistant Clinical Professors: Anderson; Glascock; Harrell; Meltzer; Morgan; Painter; Robertson; White, E.V.

Instructors: Byrne; Rolfe

Clinical Instructors: Adams; Akers; Allen; Bahlman; Bain; Barlow; Belcher; Berryman; Blevins; Brown, E.; Brown, R.; Chapman; Chatelain; Clements; Cosnotti; Crickenberger; Criss; Cundiff; Davis, C.; Davis, R.; Dillon; Dugger; Edloe; Emswiler; Fields; Fridley; Glenn; Guynn; Hancock, D.; Hancock, R.; Hasty; Herbert; Herndon; Holzbach; Jeter; Johnson; Johnston; Jones; Kahn; Kennedy; Kincaid; Kittinger; Lindamood; Marshall; Martell; Martin; Metz; Mikelson; Miller; Mink; Moss; Muha; Necsary; Northington; Padgett; Parker; Parrish; Pelham; Reavis; Rhodes; Riffe; Robbins; Rogers; Rollings; Spellman; Starr; Stephenson; Suarez; Thacker; Thomas; Thompson; Thomson; Title; Weber; Welk; Wiatt; Windmuller; Woodson; Young

301 Principles of Pharmacy. LH-4; Lab H-3; SH-5.5. I. A study of the chemical, physicochemical, and biopharmaceutical principles fundamental to the development and use of medication dosage forms. Pharmaceutical calculations and technology required to compound and dispense dosage forms for prescription orders are presented. Includes discussion of metrology, theory of solutions, kinetics, biopharmaceutics, colloidal systems, and suspensions.

302 Principles of Pharmacy. LH-3; Lab H-3; SH-4.5. II. A continuation of PHA 301.

311 Principles of Law - Pharmacy and Drug Laws. LH-3; SH-3. I. A consideration of law as it affects the practice of pharmacy, including a study of state and federal laws that relate to drugs.

401 Principles of Pharmacy. LH-3; Lab H-3; SH-4.5. I. PR: PHA 302. The course is a continuation of PHA 301 and 302. The physico-chemical, pharmaceutical, and biopharmaceutical principles underlying the compounding and use of aerosols, emulsions, topical products,

suppositories, powders, granules, capsules, and tablets are presented. Factors affecting the bioavailability of these dosage forms are discussed. In the laboratory the students learn compounding and dispensing skills related to oral, topical, and I.V. dosage forms, the use of the telephone in receiving prescription orders, and the utilization of a patient medication profile system.

413 Biopharmaceutics and Pharmacokinetics. LH-3; SH-3. I. CR: PHA 401. The general kinetics of drug absorption, distribution, and elimination are discussed in detail. The principles are applied to examine the role of the dosage form on the rate and extent of absorption. Physiological factors affecting biologic disposition of drugs are characterized by pharmacokinetics.

432 Orientation to Disease States. LH-4; SH-4. 11. An introduction to human diseases emphasizing their etiology, pathogenesis, course, and clinical manifestations.

442 Drug Literature Evaluation. LH-2; Lab H-2; SH-3. II. The student is taught to retrieve and to evaluate the validity of published studies, and to apply principles of biostatistics in the design and evaluation of clinical drug research studies.

501 Pharmacy Administration. LH-4; SH-4. I. A study of marketing as related to the drug industry and pharmacy. Techniques involved in establishing and maintaining a practice of pharmacy. Elements of accounting adapted to the needs of the pharmacist are included in the discussion.

511 Pharmacotherapeutics. LH-4; Lab H-2; SH-5. I. Clinical pharmacology, clinical chemistry (laboratory tests), and social aspects of health care are discussed. Clinical conferences and assigned reading cover therapeutic topics in the medical and pharmaceutical literature. Interdisciplinary patient care is stressed by participation in hospital ward rounds.

512 Professional Practice. SH-17. II. The course is divided into four clerkship periods in which students participate in interdisciplinary patient care in the teaching institution and practice situations in community and hospital pharmacies. Emphasis is placed on the team approach to health care. Included are student-patient interviews, rational drug therapy, drug interactions and adverse effects, and drug information retrieval.

531 Pharmaceutical Product Development. LH-2; Lab H-4; SH-4. I. A study of the pharmaceutical, physicochemical, biopharmaceutical, and engineering principles and technology underlying the development of various pharmaceutical dosage forms for hospitals and industry.

532 Pharmaceutical Product Development. LH-2; Lab H-4; SH-4. II. A continuation of PHA 531.

533 Non-Prescription Medication. LH-2; SH-2. I. The pathological and clinical manifestations of disease states that lead to self medication are discussed. Stress is placed on critical evaluation and rational use of non-prescription drug products promoted for patient selection and self medication.

541 Pharmaceutical Ethics. LH-2; SH-2. I. A study of the current practice and philosophy of pharmacy.

550 Drug Literature Evaluation. LH-2; Lab H-4; SH-4. II. This course shares lectures with PHA 442 but has more extensive and demanding conference sessions for the Pharm. D. student.

552 Hospital Pharmacy Administration. LH-3; SH-3. I. An introductory course dealing with hospital pharmacy administration. Subject matter includes the responsibilities, services provided, systems, methodologies, and administrative principles used by pharmacists to coordinate and to direct hospital pharmacy operations.

562 Application of Laboratory Values for Drug Therapy. LH-2; Lab H-2; SH-3. I. The utilization of laboratory values as a part of the total evaluation of the patient with respect to drug therapy selection, consultation, and management.

571 Undergraduate Special Projects. SH-1-4. I, II. An elective course in which students may participate in research projects or undertake special studies, through tutorial arrangements and/or library assignments, in the several areas of the pharmaceutical sciences. (Graded pass or fail.)

590 Pharmacy Seminar. LH-1; SH-1. I, II. Required of all graduate students in pharmacy.

601 Advanced Pharmaceutical Product Development. LH-3; Lab H-4-10; SH-5-8. I. An advanced study of the pharmaceutical, physicochemical, and engineering principles and technology underlying the development of various pharmaceutical dosage forms.

602 Advanced Pharmaceutical Product Development. LH-3; Lab H-4-10; SH-5-8. II. A continuation of PHA 601.

605 Legal Aspects of Drug Development and Evaluation. LH-3; Lab SH-3. I. A study of the requirements of the regulatory agencies in the development of a "new drug" in accordance with the IND and NDA process through all phases of laboratory and clinical testing, including pertinent statistics. The current and probable future requirements of "good manufacturing practice" will be treated.

608 Clinical Radiopharmacy. LH-1; Lab H-2; SH-2. I. Students receive training in the safe use, preparation, calibration, quality control, and clinical diagnostic use of current and investigational radiopharmaceuticals in nuclear medicine practice. Emphasis will be placed on obtaining patient medication histories for the evaluation of agents capable of in vivo and in vitro radioisotopic test modification.

611 Advanced Physical Pharmacy. LH-3; Lab H-O-4; SH-3-5. I. Detailed application of physicochemical principles to areas of pharmaceutical interest, including colloids, rheology, phase rule, complexation, kinetics, drug stability, and micromeritics.

612 Advanced Physical Pharmacy. LH-3; Lab H-O-4; SH-3-5. II. A continuation of PHA 611.

621 Advanced Biopharmaceutics. LH-2; SH-2. I. Study at the advanced level of the relationships between the

physicochemical properties of a drug and dosage form and the absorption, distribution, elimination, and pharmacological effects of the drug. Current theory and methodology involved in solving problems at the research level are emphasized.

622 Clinical Pharmacokinetics. LH-2; Lab H-O-2; SH-2-3. II. The application of current pharmacokinetic theory to clinical problems involved in optimizing and monitoring drug use in patients. Particular attention is given to adjustment of drug dosage in individual patients with impaired drug elimination due to renal and hepatic dysfunction.

624 Pharmacokinetics. LH-2; SH-2. II. An advanced treatment of the kinetics of drug absorption, distribution, and elimination utilizing mathematical models, analog, and digital computers for analysis of linear and non-linear biologic systems.

625 Biopharmaceutic Assay. LH-2; Lab H-2-6; SH-3-5. I. Theory and laboratory practice for systematic quantitative and qualitative analysis of drugs and metabolites in body fluids and tissues. Emphasis is on modern analytical methodology used in pharmacokinetic and biopharmaceutic studies. (Joint offering with the Department of Pharmaceutical Chemistry.)

626 Biopharmaceutic Assay. LH-2; Lab H-6-10; SH-5-7. II. A continuation of PHA 625 with particular emphasis on the identification of drug metabolites.

631 Advanced Hospital Pharmacy Management. LH-3; SH-3. I. Major issues and problems related to the effective management and coordination of a contemporary institutional pharmacy service program are discussed largely in the context of hospital organizational structure and dynamics. Emphasis is placed on the social, political, and economic forces impinging on the modern hospital organization and its pharmacy service programs.

632 Advanced Hospital Pharmacy Management. LH-3; SH-3. II. The planning and development of a total program in institutional drug use control is stressed with emphasis on current human and fiscal resource management theories and applications. Current management problems unique to institutional pharmacy practice are stressed.

633 Adverse Drug Reactions. LH-2; Lab H-2; SH-3. I. Epidemiology and etiology of drug-related, iatrogenic diseases are discussed. Detection, clinical evaluation, and appropriate management as well as methodology for the prevention of adverse drug reactions are emphasized. Students are required to participate in group discussions and give presentations based on current literature. Students receive clinical exposure to the detection, evaluation, and management of drug induced diseases.

635 Advanced Clinical Pharmacy. LH-2; Lab H-2; SH-3. I. PR: PHA 511. The rational choice of drugs with respect to disease conditions is discussed. Emphasis is

placed on clinical differences between drugs. Clinical application of biopharmaceutics, pharmacokinetics, therapeutic effectiveness, drug interactions, and adverse effects are stressed. Students make case presentations to illustrate drug therapy in disease states.

636 Advanced Clinical Pharmacy. LH-2; Lab H-2; SH-3. II. A continuation of PHA 635.

637 Advanced Clinical Pharmacy. LH-2; SH-2. I. A continuation of PHA 635, 636.

638 Advanced Clinical Pharmacy. Lab H-4; SH-2. II. A continuation of PHA 635, 636, 637.

650 Special Topics In Pharmacy. LH-1-4; SH-1-4. I. Presentation of subject matter is by lectures, tutorial studies, and/or library assignments in selected areas of advanced study not available in other courses or as part of the research training.

660-679 Advanced Clinical Practice. SH-3-15. I, II, and S. A series of elective and required planned experiences to permit Pharm.D. students to utilize their knowledge of the pharmaceutical sciences in a variety of practice settings. Each course consists of one or more month-long rotations, each carrying three semester hours of credit. Rotations within a course offer different experiences under the same or a different instructor. Enrollment in any of these courses requires the permission of the director of the Pharm.D. program.

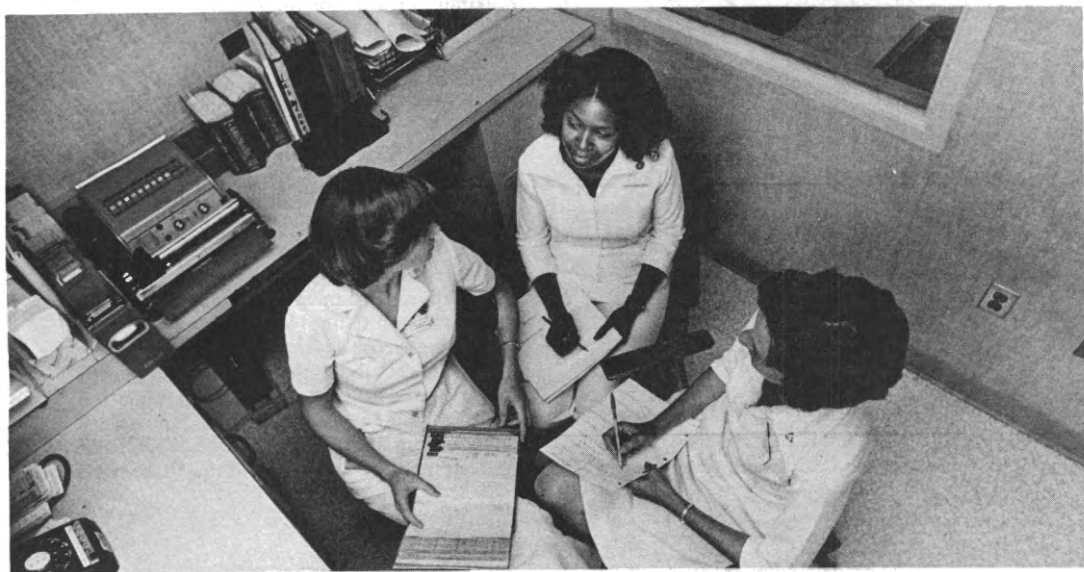
PHA 660	Ambulatory (MCV Hospitals)
PHA 661	Community Health (2 rotations)
PHA 662	Ambulatory (V.A. Hospital)
PHA 664	Inpatient Medicine (3 rotations)
PHA 667	Drug Information
PHA 670	Infectious Diseases
PHA 671	Pediatrics
PHA 672	Radiopharmacy
PHA 673	Oncology
PHA 674	Pharmacokinetics (2 rotations)
PHA 675	Psychiatry
PHA 677	Institutional Pharmacy Administration (5 rotations)
PHA 679	Selected Topics (4 rotations)

690 Research in Pharmacy. SH-1-15. Research leading to the M.S., Pharm.D., or Ph.D. degree.

BASIC SCIENCES

Basic science courses are included in the pharmacy curriculum. For details on the following courses and faculty, see the indicated pages.

ANA 301	.....	See page 111
BIC 302	.....	See page 112
MIC 401	.....	See page 115
PMC 403, 404	.....	See page 116
PIO 382	.....	See page 117



PART V—School of Nursing

ADMINISTRATIVE OFFICERS

Doris B. Yingling, R.N., B.S., M.A., Ed.D.
Dean

Katherine C. Bobbitt, R.N., B.S., M.S.
Assistant Dean, Undergraduate Program
Eleanor C. Repp, R.N., B.S., M.S.N., Ed.D.
Assistant Dean, Graduate Program

Shirley T. Downs, B.S., M.Ed.
Assistant Dean for Management and Student Affairs

The School of Nursing originated in 1893 as part of the University College of Medicine. Since then, the educational program has evolved from a basic diploma program to multiple programs at the baccalaureate and master's degree levels. In addition, three nurse practitioner programs, an active research program, continuing education opportunities, and a cooperative outreach program in graduate education with the University of Virginia School of Nursing have been included.

The School of Nursing takes pride in its long history of service to the profession of nursing and its record of accomplishments. Many "firsts" are listed in the official archives. Through high standards of quality education and performance in the practice of nursing, the School of Nursing continues to be a leader in nursing education in Virginia.

PHILOSOPHY OF NURSING

Nursing is a human service involved with man's state of health and man's need to

sustain and nurture life; avoid or recover from disease, or impairment of function, or cope with their effects.

Nursing is concerned with health outcomes which have lifetime, short term, or momentary relevance for individuals, families, groups, and communities. These outcomes range from optimal health to a peaceful death.

Nursing encompasses a broad range of activities directed at facilitating the efforts of individuals or groups in adapting within their own unique environments to achieve their maximum health potential. These nursing activities include assisting clients in the performance of health related behaviors which they would choose to perform unaided if they were capable of so doing. These health related behaviors include recognizing existent or potential threats to optimal health; establishing health goals; considering alternative approaches to meeting health goals; recognizing possible consequences of decisions affecting health; developing patterns of living and strategies of adaptation coordinate with changing environments; achieving health goals; and evaluating outcomes.

Nursing respects the right of people to make choices about their own health needs when those choices do not infringe upon the health of the general population. The values directing nursing's goals must be made clear to recipients of services and to those who

provide related services. Nursing shares responsibility with other disciplines for the health goals affecting society and the future of man. Consequently, nursing works with other groups in developing policy affecting health and designing of relevant health care systems.

The practice of nursing requires a variety of cognitive, functional, and interpersonal competencies. These skills are complex behaviors which are inter-related and are rooted in knowledge which include descriptive, explanatory, and predictive strategies. It is the responsibility of nursing to identify and develop the knowledge and principles which guide action to produce desired results or meet specific goals and assure that this knowledge base is adequately tested and incorporated into practice.

The nursing process is the method by which knowledge is translated into meaningful service.

The nurse assumes responsibility for decisions in respect to nursing and when indicated, collaborates with other professionals in developing and implementing health care plans. Accountability to clients for professional services is important as well as accountability within the system in which the nurse functions. In order to maintain and enhance its services the profession of nursing must develop educational programs which prepare practitioners of nursing to meet needs of clients; develop systems of delivery of services which emphasize the needs of clients and encourage full utilization of nursing knowledge and skill; examine nursing practices and through experimentation, investigation, and research develop more effective and efficient practices; develop strategies for predicting future health needs of clients and the role of nursing in meeting those needs; develop strategies to assure continuing effective and efficient practice by individual practitioners of nursing; and develop strategies which encourage collaboration with other disciplines in accomplishing health goals.

The faculty believes that the baccalaureate degree in nursing is the minimum level of education required for the practice of professional nursing.

PROGRAMS

Baccalaureate and master's degree programs are offered through the School of Nurs-

ing. Continuing education offerings are numerous and are published separately. Information may be obtained by writing to the director, Continuing Education Program, at the address given below.

Certificate programs to prepare family nurse practitioners, pediatric nurse practitioners, and obstetric-gynecologic nurse practitioners are included in the descriptions which follow.

Complete information regarding curriculum and admissions may be obtained by writing to the director of the appropriate program, Virginia Commonwealth University, Box 638, MCV Station, Richmond, VA 23298.

Bachelor of Science. The purpose of the baccalaureate degree program in nursing is to provide learning opportunities whereby the student acquires a sound body of knowledge and skills which are essential to begin the practice of professional nursing and may be used as a basis for advanced study in nursing.

Master of Science. This program is built upon the premise that graduate education provides opportunities for specialization in one clinical area in nursing. Emphasis is placed on preparing the graduate to deal with the continuing and expanding body of knowledge as it relates to the practice of nursing and to the modern concepts of health and illness.

Applicants must meet admission and academic requirements as given on page 91.

Cooperative Graduate Outreach Program. The administration and graduate faculties of the Medical College of Virginia of Virginia Commonwealth University and the University of Virginia Schools of Nursing have collaborated to help meet graduate nursing education needs beyond the boundaries of the two campuses. It is anticipated that applications to this program will not be accepted in the 1979-80 session. Additional information may be obtained by writing to the Assistant Dean, Graduate Program, School of Nursing, Virginia Commonwealth University, Box 567, MCV Station, Richmond, VA 23298 or the Outreach Curriculum Coordinator for Southwest Virginia, University of Virginia School of Nursing, McLeod Hall, Charlottesville, VA 22903.

Continuing Education. Because of the faculty's awareness of the needs of those engaged in the practice of professional nursing to continue their education, Virginia's first program

in continuing education staffed with full-time faculty was established in 1965. It offers a variety of noncredit educational opportunities for practicing registered nurses to update knowledge, to increase competencies in providing quality patient care, and to become involved in rapidly changing health delivery services. The philosophy of adult education is used in meeting the needs of registered nurses by building on past learning and experience and by recognizing that education for nursing is a continuing process.

Certificate Nurse Practitioner Programs. See page 99.

FACILITIES AND RESOURCES

The faculty and administrative offices of the school are housed in the Nursing Education Building, 1220 East Broad Street. Additionally, this building has two nursing skills laboratories and four classrooms equipped with a full range of audiovisual equipment. Both graduate and undergraduate courses are scheduled also in the classrooms and laboratories of Sanger Hall, the principal building of the Schools of Medicine and Basic Sciences.

The clinical laboratories for nursing courses are conducted in the MCV Hospitals and in numerous other hospitals and health agencies in the area. Hospitals used on a regular basis are St. Mary's, Retreat, and the Veteran's Administration Hospital. Mental health facilities include Central State Hospital, Virginia Treatment Center for Children, Educational Therapy Center, Commonwealth Psychiatric Center, Crisis Intervention Center, and other facilities such as Richmond City Jail and Bon Air Learning Center for Girls. Facilities of the State Department for Public Health are used in Richmond, Petersburg, and Chesterfield County. The Instructional Visiting Nurses Association provides learning opportunities for a number of students as well. Students are given a diversity of experiences in hospital and community oriented nursing.

ACCREDITATION

The baccalaureate degree program in nursing is accredited by the National League for Nursing Department of Baccalaureate and Higher Degree Programs for students with no previous preparation in nursing and for graduates of diploma and associate degree pro-

grams. The program is accredited also by the Virginia State Board of Nursing and graduates are eligible to take the licensing examinations for registration.

The master's degree program is accredited by the National League for Nursing Department of Baccalaureate and Higher Degree Programs.

NURSING ALUMNI ASSOCIATION

All graduates of the Medical College of Virginia School of Nursing, former St. Philip School of Nursing, and the Richmond Professional Institute nursing program are eligible for membership in the Nursing Alumni Association of the Medical College of Virginia of Virginia Commonwealth University. The purposes of the association are to support and promote the School of Nursing. The association also provides support within the university to promote and encourage the development of nursing services of the highest possible quality, stimulate professional growth, and promote cooperation and fellowship among nursing alumni and students.

ANNUAL LECTURESHIPS

Outstanding scholars are brought to the campus through a variety of resources. Students in the School of Nursing have access to special programs of an intellectual and cultural nature on both campuses of the university.

The Annual Nursing Lectureship, established in 1966 by contributions from alumni and friends of the School of Nursing, brings to the campus each year a person of national stature related to the field of nursing. Alumni and faculty plan and implement the lectureship which serves as an open forum to many publics in the health fields.

Lecturers in recent years have included Dr. Virginia Henderson, Dr. Madeleine Leininger, Dr. Ada Jacox, Dr. Shirley Chater, Dr. Esther Lucille Brown, Miss Rosamond Gabrielson, and Dr. Marlene Kramer.

HONORS AND AWARDS

Dean's List. Recognition of high quality academic achievement is made through inclusion on the Dean's List, published at the close of each semester. Students who have carried at least 12 semester hours' credit and who have earned a grade of 'C' or higher in all courses

with an overall average of 3.1 are named to the Dean's List.

Sigma Theta Tau. The Medical College of Virginia School of Nursing Honor Society inducted its first members in the fall of 1976. This local honor society was accepted as a chapter of the national nursing honor society, Sigma Theta Tau, in the fall of 1977. The chapter, known as Gamma Omega, installed its first members in the fall of 1978. The purposes of Sigma Theta Tau are to recognize superior achievement and leadership qualities, to foster high professional standards and strengthen commitment to the ideals and purposes of the profession.

Becky Godwin Fund. This fund was established by Dean Doris B. Yingling in 1978 following completion of the Honorable Mills E. Godwin, Jr's., second term as Governor of the Commonwealth. The dean developed the fund in memory of former Governor and Mrs. Godwin's only daughter, Becky. The interest on the endowment which Dean Yingling gave to the Medical College of Virginia School of Nursing provides funds to enhance student professionalism in nursing for individuals enrolled in the undergraduate and graduate programs. Awards from the fund are made on an annual basis by the dean.

Yingling Senior Achievement Award. Gifts to the institution to honor Dean Doris B. Yingling have been used to establish an annual award to a senior student in the School of Nursing. Recognition is based on outstanding leadership ability and potential professional growth as determined by a selection committee of faculty and students.

Mable Montgomery Award. This award was established through gifts of faculty and students in honor of Miss Mable E. Montgomery, executive secretary of the Virginia State Board of Nursing, 1949-70. The award alternates annually between a senior student and a faculty member. Leadership, excellence in nursing, and outstanding personal qualities are considered in selecting the recipients.

Marguerite G. Nicholson Award. This award was established by alumni and friends of the school to honor a beloved alumna and former faculty member. The award is presented annually to a graduating senior student who best demonstrates the humanitarian qualities of unselfishness, helpfulness to oth-

ers, consideration, humility, and loyalty to the school.

Mayme B. Wilson Lacey Award. Established by alumni of the former St. Philip School of Nursing, this award honors an outstanding alumnus of the school who served for many years as assistant director of nursing services for MCV Hospitals. The recipient must be a well rounded individual committed to nursing as a profession, who gives consistently good nursing care, has the ability to work well with the health team and shows promise of supporting professional organizations.

Temple Memorial Award. The senior and junior classes, 1976-77, and the School of Nursing Alumni Association established this award in memory of President and Mrs. T. Edward Temple. The award is given annually to a graduating student in the master's degree program. The recipient must possess characteristics that demonstrate exemplary performance in the advocacy role for the consumer of health care services and for the profession of nursing.

Baccalaureate Degree Program

ADMISSION REQUIREMENTS

Applications for admission are welcomed from men and women who have a sincere interest in preparing for a career in professional nursing. In selecting students for admission, the Admissions Committee looks for evidence of character, ability, maturity, and sound academic preparation. The committee attempts to choose applicants who give the greatest promise of profiting from the opportunities offered by the university and of preparing for a positive contribution to the practice of nursing and community life.

The student applying for admission must either be eligible for readmission or be in good standing at the college last attended. Usually, only those credits earned within 10 years preceding admission will be considered for transfer. In addition, credits must be applicable toward a degree at the institution in which they were earned.

A minimum of 60 semester hour credits with a quality point ratio equivalent to 2.0 is required; however, a ratio of 2.5 on a 4.0 scale is recommended. Computation of the quality point average utilizes academic courses only.

Foreign applicants who do not use English as their natural language must have a minimum TOEFL score of 550.

Procedures. Applicants are required to submit specific records in support of their application. In order to allow sufficient time for the careful and thorough review given to each application, these records should arrive before February 1 preceding admission to the junior year. Applications may be obtained by writing the Director of Admissions, Medical College of Virginia, Virginia Commonwealth University, Box 632, MCV Station, Richmond, VA 23298, (804) 786-0488.

1. Formal application for admission to the junior year—Application to be completed by the applicant and submitted as early as possible after September 15 of the year preceding entrance.

2. Secondary school records—Should be sent directly to the Admissions Office by the school.

3. College transcripts—An official transcript of record listing all work must be submitted from each college attended, including summer sessions.

4. Course summary—Applicants are expected to provide a listing of courses (with titles) that they expect to complete during the year preceding admission to the School of Nursing.

5. Test results—All applicants must submit the results of the Scholastic Aptitude Test of the College Entrance Examination Board. If this test has been taken previously, it need not be repeated, but the earlier results must be submitted.

6. Self evaluation—All applicants are expected to complete the self-evaluation form enclosed in the application kit.

7. Personal evaluation—Three evaluations are required of each applicant. Appropriate forms are provided.

8. Personal interview—Interviews are not routinely required but may be requested by the Admissions Committee. Applicants desiring an interview should make an advance appointment.

9. Medical examination—A complete medical examination is required within six months prior to admission. Appropriate forms for the report will be provided.

Upon receipt of all required forms and records, the student's credentials are sub-

mitted to the faculty admissions committee for review and decision. Applications received prior to February 1 will be given priority for review and applicants notified by April 1.

Sufficient proficiency in mathematics for computing medication dosages is one requirement for satisfactory completion of NUR 359—Foundations for Nursing Practice and for admission to the nursing courses of the second semester. For this reason, following acceptance, the student will receive information for ordering a programmed instruction text in calculating drug dosages along with study guides. Students will be examined on this information during orientation week.

Registered Nurse Applicants. The School of Nursing provides an opportunity for registered nurses to be admitted to the baccalaureate program. Graduates from state-approved diploma programs and associate degree programs in nursing, who are currently licensed to practice, may be admitted for part- or full-time study. Registered nurse students must hold a Virginia license. Registration number must be sent with the application.

Admission Requirements and Procedures. Refer to information above. The same lower division prerequisites are required of the registered nurse student as of the generic student.

In addition, the registered nurse applicant must supply an official copy of the nursing school transcript and an official copy of the State Board Examination scores.

Establishment of Credit. The registered nurse student may establish credit for courses in several ways: (a) through proficiency examinations as explained below, (b) through transfer of credit from other colleges, and (c) through taking courses as offered to generic students.

Proficiency examinations are of several kinds:

- A. Those developed and distributed by the College Entrance Examination Board. Information concerning these tests, called College Level Examination Program tests, may be obtained from the College Entrance Examination Board, 475 Riverside Drive, New York, New York 10027. These tests are available through the Academic Campus of Virginia Commonwealth University. They are given on a monthly schedule, and arrangements may be made for these

tests one month prior to the testing date. The fee for each examination is \$15. Subject examinations are available in multiple areas as listed in information available from the College Entrance Examination Board (CEEB). Semester hour credit is granted and satisfactory scores are determined in accordance with the recommendations of the CEEB and vary with different subjects. Students may earn full course credit by examination for general education courses.

- B. Those given by the faculty of the School of Nursing. These proficiency examinations in nursing and other closely allied courses include teacher-made and standardized examinations. Students may obtain a course syllabus from the School of Nursing for review prior to the examination. Course credit is given upon successful performance on the examinations. Students may earn full course credit by examination for courses in the nursing curriculum shown below:

PMC 391	Health Science I
PMC 392	Health Science II
MIC 365	Infection and Immunity
NUR 339/439	Nursing of Adults
NUR 341	Human Nutrition
NUR 369/469	Nursing of Children
NUR 349/449	Psychiatric-Mental Health Nursing
NUR 329/429	Maternity Nursing

A charge of \$5 for each examination is made to cover cost of materials.

Length of Program for Registered Nurses. The length of each registered nurse student's program within the major is determined by performance on the proficiency examinations. The maximum length of full-time study is two academic years on this campus.

It is possible, however, to complete the nursing major requirements in one calendar year. This special plan is for the registered nurse who establishes sufficient credit through proficiency examinations and starts in June with a six-week session. Upon satisfactory completion of the summer session, the registered nurse enters the senior year in August and completes requirements for a degree in two semesters.

In order to qualify for completion of the major in one calendar year, the registered nurse must have completed the liberal arts

requirements before the final semester of the senior year. The Undergraduate Admissions and Advanced Standing Committee, composed of representatives from the faculty and student body of the Schools of Nursing and Basic Sciences, and the Department of Nursing, is responsible for the placement of students in the curriculum. Their decision is based on the performance of the applicant in all previous educational experiences and in the nursing proficiencies.

Once the liberal arts have been procured or a plan for their acquisition is available, application should be made to the School of Nursing. Application materials should be requested following completion of 30 semester hours of college study or the fall before expected admission to the School of Nursing.

CURRICULUM PLAN

The freshman and sophomore years of the baccalaureate degree program may be taken at the Academic Campus of VCU or at any other accredited junior or senior college. If the student attends another college to acquire the prerequisites, counseling is provided to assure the proper selection of courses. It is the applicant's responsibility to seek advice from the Admissions Office or the School of Nursing on courses taken prior to admission.

The student enters the MCV/VCU School of Nursing with the status of junior for the study of clinical nursing and health sciences. Two years on the MCV Campus are necessary for generic students to complete the requirements for a Bachelor of Science in nursing degree.

For admission as a junior, the student must present a minimum of 60 semester hours. The following prerequisites apply for students entering in 1978:

	<i>Semester Hours</i>
COMMUNICATIONS.....	6-9
Required: English composition, 3 SH.	
Elective: speech and/or literature, 3-6 SH.	
HUMANITIES.....	12
Required: history, 6 SH.	
Elective: philosophy, logic, literature, art, music, drama, religion, or foreign language, 6 SH.	
SOCIAL SCIENCES.....	18

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Required:	general psychology, 3 SH. developmental psychology, 3 SH. ¹ general sociology, 3 SH.
Elective:	additional courses in sociology, psychology, economics, or political science, 9 SH.
NATURAL SCIENCES	13-16
Required:	general chemistry, 8 SH. human anatomy and physiology, 5-8 SH. ²
MATHEMATICS	3
	Statistics preferred; algebra or other freshman mathematics course accepted.
OTHER ELECTIVES	2-8
	No more than three credits in an activity course accepted
Total semester hour credits	60

A typical program in the upper division curriculum is as follows:

Junior Year, First Semester

NUR 341	Human Nutrition	2
NUR 359	Foundations for Nursing Practice ..	8
MIC 365	Infection and Immunity	3
PMC 391	Health Science I	4
		17

Junior Year, Second Semester

³ NUR 349/449	Psychiatric-Mental Health Nursing	6
³ NUR 339/439	Nursing of Adults	7
NUR 372	Theory of Family and Group for Nursing Practice	2
PMC 392	Health Science II	3
		18

Senior Year, First Semester

³ NUR 329/429	Maternity Nursing	6
³ NUR 369/469	Nursing of Children	6
NUR 471	Managerial Theory for Nursing Practice	3
NUR 478	Introduction to Public Health Science	2
		17

Senior Year, Second Semester

NUR 472	Dimensions of Professional Nursing	2
NUR 479	Leadership and the Nursing Process	5
NUR 482	Experiential Management Seminar	1
NUR 489	Community Health Nursing	5
	Elective	3
		16

¹Child or adolescent psychology acceptable.

²Students enrolled in a college that does not offer an appropriate course in human anatomy and physiology may take this in the VCU Summer Session between the freshman and sophomore years.

³These courses may be taken interchangeably in the junior and senior years.

All courses listed for the first three semesters within the upper division are prerequisite to the fourth semester. Other prerequisites are shown in course descriptions.

In addition to the course requirements of the lower and upper divisions, it is expected that students complete a course in first aid prior to graduation. If the course can be completed before admission to the upper division major, it is desirable.

The School of Nursing reserves the right to restrict enrollment in clinical courses to matriculated nursing students seeking a Bachelor of Science degree. Enrollment in all clinical nursing courses is based on availability of space in these courses.

Commuting and Community Practice. Students are assigned to other hospitals and health agencies in the Richmond area. Occasionally these assignments may be during evening hours. Public transportation is sometimes available to reach these assignments, but use of an automobile is often necessary, especially in community health nursing. To a limited extent, state-owned cars may be rented if use of a personal automobile is not possible. Transportation costs vary widely each semester and may range from very little to more than \$100. Students who anticipate need of financial assistance for transportation costs should apply to the Office of Financial Aid in advance.

Use of Educational Materials. During the program, students have access on a limited basis to certain equipment, such as tape recorders and books not owned by the university library. It is expected that all such materials will be used with care and returned in good condition within the time limit specified. If not, students will be expected to pay the cost of repair or replacement. If such obligations are not met, course grades will be withheld from the student and will not be recorded on the permanent record. Thus, *graduation*, recommendation to take State Board Examinations, or transfer to another college or university would be impaired by failure to meet these obligations.

ACADEMIC REGULATIONS

Full-time Students. The student is classified as a junior when enrolled in upper division courses. Calculation of the grade point aver-

age is based on grades in the School of Nursing.

Progression to the second semester of the program is based on earning at least a "C" in Foundations of Nursing Practice and a passing grade in other courses. All courses in the first semester are prerequisite to those of the second semester.

Progression to the third semester is based upon satisfactory completion of the courses of the first year and a cumulative grade-point average of not less than 1.91. Exception to this may be made for the student who has completed only one clinical nursing course in the second semester. If this is the case, the individual will not be able to complete all requirements for graduation by the end of the fourth semester.

Upon request of the student to the Academic Policy Committee, consideration will be given to the individual with a grade-point average between 1.71 and 1.90.

All courses of the first three semesters are prerequisite for the courses of the fourth semester.

Part-time Students. Refer to course descriptions and prerequisites listed with these.

Method of Grading. See page 28.

The clinical laboratory grading system is satisfactory or unsatisfactory. Unsatisfactory clinical application results in a grade of "F" for the course.

The student may not receive a grade of "I" (Incomplete) in a nursing course if the deficiency is in the clinical laboratory aspect of the course.

Academic Probation. A student is placed on academic probation when either his overall cumulative average falls below 2.0 or a "D" or below is earned in a nursing course. The minimum passing grade for nursing courses is "C."

Removal of Academic Deficits. Nursing courses with a grade of "D" or below may be repeated once upon written approval of the course facilitator and the assistant dean for the undergraduate program. The student must repeat the course the next time it is offered, unless otherwise recommended (in writing) by the facilitator of the course being repeated and the assistant dean for the undergraduate program. When a course is repeated and a grade of "D" or below is earned, the student must withdraw from the school.

A student whose grade-point average is less than 2.0 for two consecutive semesters in the curriculum will be referred to the Academic Policy and Progression Committee for review and recommendation for continuance in the school.

Non-nursing courses passed with a "D" grade may not be repeated. The one exception is as follows: the chairman of the department concerned may recommend that a course be repeated if the course is specifically required in the upper division. Otherwise, the student may select an appropriate substitute in a behavioral or natural science with the approval of the course leader and the assistant dean for the undergraduate program.

Non-nursing courses with a grade "F" may be either repeated or a comparable course may be taken with the approval of the chairman of the respective department.

Dismissal from a Clinical Course. The faculty/administrators of the School of Nursing are committed to the belief that learning does not take precedence over the physical or emotional welfare of patients and their families. A student who evidences a course of conduct to be clinically unsafe may be dismissed at any time from a clinical nursing course. Unsafe clinical performance is defined as behavior which is actually or potentially dangerous to the patient by virtue of process or outcomes.

Such a compulsory withdrawal does not in itself result in dismissal from the School of Nursing. The student may register for the course the next time it is offered.

A second dismissal from a clinical course requires that the student appear before the Academic Policy and Progression Committee. This committee will make the decision whether the student may enroll in the course for the third time.

Readmission. The student desiring readmission is given equal consideration with other applicants being reviewed at a scheduled meeting of the Admissions Committee. The procedures for readmission are as follows:

1. The applicant for readmission must submit a letter to the Admissions Committee requesting review.
2. Prior to acceptance for readmission the applicant is required to be interviewed by the full Admissions Committee or by individual members thereof.

3. The applicant's record from the School of Nursing will be used as one of the criteria for making a decision. The applicant's employment record, educational record, and other experiences subsequent to termination at the School of Nursing will also be considered.

Requirements for Graduation. To be a candidate for the degree of Bachelor of Science in nursing, the student must be recommended by the faculty and must:

1. Complete all requirements for the prescribed curriculum.
2. Earn a "C" (2.0) in all nursing courses.
3. Earn a cumulative average of "C" (2.0) in all work presented for graduation.
4. Enroll in the School of Nursing for the final two semesters of study.
5. Clear all financial obligations to the university, return all materials to the library, and fulfill any other specifically stated special requirements pertaining to the educational program.

Achievement Tests. During the educational program, students may be required to take various standardized comprehensive achievement examinations in nursing and health sciences.

Class Attendance. Attendance at all classes and laboratories is expected. Absences without reason are not condoned; requests for absence on a convenience basis are not granted. For example, medical and dental appointments, except emergencies, do not constitute basis for an excused absence. Students are expected to make up material missed because of absence.

Absence from clinical laboratory must be reported to the instructor by the beginning of the laboratory period and to the unit by the beginning of the shift during which the laboratory hours occur.

Any student who attends fewer than 87 percent of laboratory sessions for any course will receive a grade of "F."

In case of extenuating circumstances, exceptions to this policy may be made by group decision of faculty teaching the course.

Separation from the School. A student who wishes to withdraw from the School of Nursing should discuss his plans with the assistant dean of the undergraduate program, her designee, or the MCV Campus dean of students. Before leaving the school, the proper forms

must be obtained from the registrar and completed by the student.

In addition to those standards of conduct described in the *Rules and Procedures of Virginia Commonwealth University* and the *Medical College of Virginia Honor Code*, a student may be suspended or dismissed from the school for failure to meet academic requirements or failure to exhibit the attitudes and skills deemed necessary to function as a professional nurse.

The School of Nursing recognizes its responsibility to the nursing profession and to the consumer of health care. Therefore, any action by a nursing student considered to be unprofessional conduct shall be deemed cause for disciplinary action.

Unprofessional conduct may be defined as, but is not limited to:

1. Fraud or deceit in filing application for admission to the school, such as false representation on the application.
2. An act which violates the accepted social norms regarding conduct of one person towards another. Social norms refers to the laws, written or unwritten, which protect the individual and/or his property from *unwanted acts of another*, such as stealing, lying, cheating, and slander.
3. Conviction of a felony.

The School of Nursing subscribes to the statements set forth in Section VI; 4.1, of *The Law, Governing the Examination, Licensure and Practice of Professional Nurses and Practical Nurses*, as issued by the Virginia State Board of Nursing. When applicable, these standards will be used in determining a student's eligibility for continuance in, or readmission to, the nursing major.

Master of Science Degree Program

The School of Nursing offers programs of study leading to the Master of Science degree. Major study in a clinical area may be combined with a minor in a functional area or psychiatric mental health nursing, or with preparation as a nurse practitioner.

Programs combining major study in a clinical area with a minor area:

Major	Minor	Approximate Length
Community Health Nursing	Teaching	3 Sem 1 SS
	Supervision	3 Sem 1 SS
Maternal and Infant Nursing	Teaching	3 Sem 1 SS
	Clinical	3 Sem 1 SS
	Specialization	3 Sem 1 SS
Medical-Surgical Nursing	Psych-Mental Health	3 Sem 1 SS
	Teaching	3 Sem 1 SS
	Clinical	3 Sem 1 SS
Nursing of Children	Specialization	3 Sem 1 SS
	Psych-Mental Health	3 Sem 1 SS
	Teaching	3 Sem 1 SS
Psychiatric-Mental Health Nursing	Clinical	4 Sem
	Specialization	4 Sem
	Teaching	4 Sem

Programs combining major study in a clinical area with preparation as a nurse practitioner are:

Major	Nurse Practitioner	Approximate Length
Community Health Nursing	Family Nurse Practitioner	4 Sem 1 SS
	OB/GYN practitioner	4 Sem 1 SS
Maternal and Infant Nursing	Pediatric Nurse Practitioner	4 Sem 1 SS

Undergraduate statistics is required prior to admission or statistics must be completed before graduation.

FINANCIAL ASSISTANCE

State Scholarship Fund. Both undergraduate and graduate students may apply for financial assistance from the State Scholarship Fund. Applicants must be residents of Virginia who intend to practice nursing in the state following completion of the educational program. Information may be obtained by writing to the Financial Aid Officer, Box 244, MCV Station, Richmond, VA 23298.

ADMISSION REQUIREMENTS AND PROCEDURES

The purpose of admission requirements and procedures is to encourage applications from competent students and to insure selection of those whose ability, education, and motiva-

tion qualify them to pursue successfully graduate study in nursing.

To be considered for admission applicants must have:

1. A Bachelor of Science in nursing or a program equivalent to MCV/VCU School of Nursing with an upper division major in nursing from an NLN accredited school.

2. Acceptable scores on the Graduate Record Examinations (Scholastic Aptitude Test only).

3. Current license to practice as a registered nurse. For enrollment in the program students must have licensure in Virginia and professional liability insurance.

4. References from the applicant's undergraduate program in nursing and from employment.

5. A personal interview may be requested. Preference will be given to applicants with a minimum of one year of practice within the past five years.

Foreign applicants who do not use English as their natural language must have a minimum TOEFL score of 550.

Admission to study as a nurse practitioner in the graduate program requires, in addition, a minimum of one year of practice in a related area and a personal interview upon request. Preference will be given to applicants from an area in need of primary health care and/or who have a commitment from a physician to provide a preceptorship or employment.

Applications and catalogues can be obtained from and should be submitted to: Director of Graduate Affairs, 301 West Franklin Street, Richmond, VA 23220.

Additional program information and advisement can be obtained through the Assistant Dean for Graduate Program, School of Nursing, Box 567, MCV Station, Richmond, VA 23298.

Applicants should submit the following to the director of graduate affairs:

Application for admission

Transcripts from all post secondary school academic study

References

Statement of personal development and goals

GRE scores Applications are reviewed and acted upon by the School of Nursing. Applicants will be notified of action by the director of graduate studies, Office of Research and

Graduate Affairs. Applicants who are granted any provisional admission are responsible for satisfying the provision or may be subject to dismissal. Applicants should accept an admission offer in writing and submit a tuition deposit of \$50 to the director of graduate affairs. The tuition deposit is not refundable but will be applied to tuition during the first semester of enrollment in courses. Applications not completed by June 1 for the fall semester and November 1 for the spring semester may not be processed in time for registration. The applicant whose application arrives late may be considered for enrollment as a special student, but there is no assurance that the student will be accepted into a degree program.

SPECIAL STUDENTS

Students who are not applicants for the degree may be admitted to individual courses. Permission to register for courses is at the discretion of the School of Nursing.

REGISTRATION

Students may begin study during fall, spring, or summer sessions. Students are advised, particularly if beginning in spring or summer, to discuss with their advisor the availability of sequential courses. Students who do not register for consecutive fall and spring sessions once admitted must notify in writing the assistant dean for graduate program, School of Nursing.

SCHOLARSHIPS, GRANTS, LOANS

Applications for financial assistance must be filed for all forms of financial assistance, including traineeships. These applications may be obtained from the Financial Aid Officer, Virginia Commonwealth University, Box 244, MCV Station, Richmond, VA 23298.

Limited financial assistance is available through traineeships administered by the School of Nursing. A copy of the application for financial assistance should be filed as follows:

Professional Nurse Traineeships—Dr. Eleanor C. Repp, Assistant Dean for Graduate Program

Psychiatric Mental Health Nursing—Dr. Patricia Wiley, Chairman Department Psychiatric Mental Health Nursing

Maternal and Child Nursing—Dr. Margaret Spaulding—Chairman Department of Maternal-Child Nursing

GRADUATION REQUIREMENTS

To be a candidate for the degree of Master of Science in Nursing, the student must be recommended by the faculty and must:

1. Complete all requirements for the prescribed curriculum.
2. Earn at last a "B" in all nursing courses.
3. Earn at least a cumulative average of "B" in all work presented for graduation.
4. Present a satisfactory defense of the thesis at oral examination.
5. Submit five or more copies of the thesis as required, prepared according to the standards approved by the Graduate Council.

The degree will be granted only after all requirements have been fulfilled, including payment of all fees to the university, and after submission of the bound copies of the thesis. Degrees are not granted in absentia unless specific written request is made to the dean and permission granted by her.

ACADEMIC REQUIREMENTS

1. All full-time graduate students are expected to register for a minimum of 12 semester hours credit per semester, including research.
2. Utilizing the university grading system, no student may proceed in the program with a GPA less than 3.0 or with a grade of less than "B" in any nursing course without the approval of the assistant dean for the graduate program.
3. An advisor for each student is appointed by the appropriate department chairman. That advisor will assist the student in program planning and registration procedures.
4. Each student will select, with the approval of the department chairman, a thesis committee comprised of no less than three university faculty. One member must be outside the major department and may be outside of the School of Nursing.
5. The thesis committee will monitor the design and conduct of the research, the preparation of the thesis, and serve as moderators in examination of the thesis.
6. The thesis is examined by the student's thesis committee and the additional moderator appointed from the faculty of VCU.

7. Each moderator shall receive a copy of the candidate's thesis and shall decide on its acceptability. The moderators may confer with each other before making their decision.

8. On approval of the thesis, the student appears for a final oral examination by the thesis moderators. The final examination shall be open to the faculty, and its time and place together with the candidate's name, department, and title shall be announced at least 10 days in advance.

9. A favorable vote of the examining committee with no more than one negative vote shall be required to pass the oral examination. All moderators will attend the examination and will cast a vote.

TRANSFER CREDIT

The student may arrange to take 12 of the required credits at another institution and transfer these to VCU. It is imperative to obtain approval for such courses before enrolling in them. Acceptance toward degree requirements of credits earned prior to admission is at the discretion of the School of Nursing and will not exceed 12 credits.

SPECIAL STUDENTS

Students who are not applicants for the degree may be admitted to individual courses. Permission to register for courses is at the discretion of the School of Nursing.

PROGRAMS

Community Health Nursing

The major in community health nursing is organized to include theoretical knowledge in the physical, behavioral, and sociocultural factors that influence human behavior in health and illness. The advanced clinical content in nursing includes opportunities to apply theories and modalities of treatment in family nursing and in meeting health needs of populations and defined community groups. Emphasis is on the identification and practice of innovative roles in nursing within the context of a changing health care system. Related courses in other fields basic to the specialty are selected for their contribution to the major. Students may select a sequence of courses in disciplines related to an area of special interest within the broad scope of community health nursing and develop this

area in their clinical practice and research. Graduate study in education, administration, family nurse practice, and special areas of interest is shared with graduate students from fields other than nursing.

Family Nurse Practitioner. Students enrolled in the family nurse practitioner major will complete the following courses in addition to the requirements for the community health nursing major: NUR 502, 503, 504, 505, and graduate physiology. Students who select the Family Nurse Practitioner Program are eligible to apply for certification by the Virginia Boards of Nursing and Medicine.

Maternal-Child Nursing

The major in maternal-child nursing provides an eclectic approach to the study of childbearing, childrearing, and the growth years of the life cycle. It includes emphasis on the family as a socializing unit in which each member interacts with and affects every other member in their achievement of developmental tasks and responses to situational crises. The nurse's role in assessing, monitoring, maintaining, and promoting healthy adaptation in resolving these crises is stressed.

In order to achieve an effective level of nursing intervention in a variety of settings, the program is organized to include theoretical knowledge in physical behavior and sociocultural factors that influence human responses along the health-illness continuum. Emphasis is placed also on increased self understanding and skillful synthesis of theory in clinical practice areas and research.

Students may elect functional role preparation as a teacher, clinical specialist, or nurse practitioner. A psychiatric-mental health minor is available also.

Obstetric-Gynecologic or Pediatric Nurse Practitioner

Students enrolled in the nurse practitioner major will complete the following courses in addition to the requirements for the maternal-child care nursing major: Obstetric-Gynecologic Nurse Practitioner: NUR 534, 535, and 536; Pediatric Nurse Practitioner: NUR 544, 545, 546, and graduate physiology.

Medical-Surgical Nursing

MCV Hospitals' patients are drawn from both urban and rural areas of Virginia. The

complexity of their illnesses provides a wealth of experiences for the student of medical-surgical nursing. Opportunity to move out into the community, as well as study within the hospital complex, offers the student breadth as well as depth of preparation.

The focus of the graduate program in medical-surgical nursing is on both physiological and psychosocial problems. The advanced nursing courses concentrate on a variety of health-illness situations individuals experience. Students select their own learning situations and have the opportunity to engage in independent study in each advanced course.

Students electing the teaching option have the opportunity to participate with undergraduate faculty in planning, organizing, implementing, and evaluating undergraduate student experiences. Actual practice in classroom and clinical laboratory teaching is provided under guidance. A microteaching session affords opportunity for student self-evaluation and improvement.

Students electing clinical specialization may select a focus from among the subspecialties in

medical-surgical nursing for in-depth study and concentrated clinical practice. Practicing clinical specialists from MCV Hospitals are available for consultation which affords the student the option to work in concert with those in actual practice.

Psychiatric-Mental Health Nursing

The student achieves a measure of expertise toward meeting both professional and personal goals through a program of education which is individually planned. Practice in clinical settings is selected on the basis of goals. Individual supervision is appropriate to the particular clinical situation. The student has access to teams of multidisciplinary experts with whom to work in planning and implementing care for individual clients and their families and for persons and/or groups in the community. Opportunities for students to participate in seminars, conferences, and informal sessions with scholars in residence are ongoing activities within the School of Nursing.

COURSE SELECTION BY MAJOR AREA OF STUDY **Courses Listed are Required Courses**

	Community Health Nursing	Maternal Infant	Nursing of Children	Medical Surgical	Psychiatric- Mental Health
MAJOR					
Core Course	NUR 575	NUR 575	NUR 575	NUR 575	NUR 575
Advanced Clinical	NUR 500	NUR 531	NUR 531	NUR 520	NUR 551
	NUR 501	NUR 532	NUR 542	NUR 521	NUR 552
		NUR 533	NUR 543		NUR 553
					NUR 555
					NUR 556
					NUR 557
Major Support (2 courses or 5-7 credits).....	BI5 521	PIO 501	PIO 501	PIO 501	*
	*	or GEN 501	or GEN 501		*
		*	*		
Research.....	NUR 611	NUR 611	NUR 611	NUR 611	NUR 611
	NUR 612	NUR 612	NUR 612	NUR 612	NUR 612
	NUR 630	NUR 630	NUR 630	NUR 630	NUR 630
MINOR					
Teaching Practicum.....	NUR 571	NUR 571	NUR 571	NUR 571	NUR 571
Support Courses.....	Three courses from such areas as philosophy of education, learning theories, teaching strategies, curriculum development, or evaluation				
	<i>or</i>				
Clin. Spec. Pract.....	NA	NUR 573	NUR 573	NUR 573	NUR 573
Support Courses.....	Three courses from such areas as organizational theory group process, teaching strategies, social organization, community planning, etc.				
	<i>or</i>				
Supervision Practicum.....	NUR 513	NA	NA	NA	NA
Support Courses.....	Three courses from such areas as organizational theory, administrative theory, community planning, community organization.				
Nurse Practitioner ⁴	NUR 502	NUR 534	NUR 544	NA	NA
	NUR 503	NUR 535	NUR 545		
	NUR 504	NUR 536	NUR 546		
	NUR 505				
Support.....	PIO 501	PIO 501			PIO 501

* Additional support courses will be selected from areas of study related to the major.

⁴ Nurse Practitioner courses are completed in lieu of a minor area of study.

Clinical Facilities

A variety of urban and rural organizations and agencies including community, medical center, and state hospitals; public health services, private clinics and offices, federal and state centers and departments are available for clinical study. These facilities provide generalized and specialized in-patient and ambulatory services for maternal and child health, psychiatric-mental health, medical and surgical treatment, geriatrics, and oncology. Selection of specific facilities for student experience is based upon the needs of the individual student and the services available within the facility. Students are encouraged to identify facilities which represent services within their clinical area of study.

UNDERGRADUATE FACULTY

Professors: Yingling (Dean); Spaulding (Chairman, Maternal-Child Nursing); Wiley (Chairman, Psychiatric-Mental Health Nursing)
Associate Professors: Bach; Bampton; Bobbitt (Assistant Dean, Undergraduate Program); Brooking; Collins; Eanes; Fernandez, F.; Keller; Kissinger; Moore; Munjas; Olgas (Chairman, Medical-Surgical Nursing); Richardson; Youngkin
Assistant Professors: Bell; Bennett; Bookman; Clarke; Coogan; Crowder; Downs (Assistant Dean, Management and Student Affairs); Dunn; Fernandez, T.; Griffiths; Jones; Lacey; Mancini; Millen, D.; Munton; Peter; Swensen; Tesh; Thomas, C.; Viperman; Wallace; Younger
Instructors: Broadnax; Cupit; Felton; Greishaw; Johnson; Lippman; McCord; Passarelli; Powers; Regan; Shirley; Taylor; Tauer; Yancey
Assistant Instructor: Roisen

Continuing Education

Associate Professor: Gwaltney
Assistant Professor: Calderon

Joint Appointments—Nursing Services—MCV Hospitals

Assistant Professors: Barth (Director of Nursing Services, MCVH); Exley (Nursing Research)

Clinical Associates

Bahr (Chief, Nursing Services, McGuire Veterans Administration Hospital);
Diehl (Clinical Nurse Specialist, Nursing and Rehabilitation Medicine, MCVH)
Jones, J. (Clinical Nurse Specialist, Psychiatric Nursing, MCV Hospitals)

Reid (Assistant Administrator, St. Mary's Hospital)

COURSES OF INSTRUCTION (NUR)

PMC 391 Health Science I. See page 116.

PMC 392 Health Science II. See page 116.

MIC 365 Infection and Immunity. See page 115.

319 Concepts for Nursing Practice. LH-6; CI H-12; SH-5. S. A six weeks summer course designed for R.N. students who already have a knowledge base in nursing. The course is intended to refine the student's understanding of the nursing process. Theory encompasses man's adaptation to stress, entry into the health care system, and the further development of a concept of nursing. Students also study the family as a system, communication within the family, major stressors, and theory of groups. Clinical application is provided in a variety of hospital and community settings.

329/429 Maternity Nursing. LH-3; CI H-9; SH-6. I, II. PR: NUR 359. PR or CR: NUR 372, PMC 362. A family centered experience to prepare the student to plan and give care and guidance to the family unit. Encompasses normal and important abnormal aspects of the maternity cycle from the period of preparation for parenthood through the birth process and subsequent growth and development of the newborn.

339/439 Nursing of Adults. LH-4; CI H-9; SH-7. I, II. PR: NUR 359. Furthers the student's ability to use the nursing process in the care of hospitalized adults who are threatened with or have pathophysiological and/or psychosocial conditions requiring nursing intervention encompassing preventive, therapeutic, and rehabilitative aspects.

341 Applied Human Nutrition. LH-2; SH-2. I. This course focuses on the major concepts in human nutrition which will enhance the student's own lifestyle and will enable the student to interpret nutritional components inherent in clinical practice in a variety of settings. The course provides a framework which can be added to in future clinical courses in terms of therapeutic nutrition.

349/449 Psychiatric-Mental Health Nursing. LH-3; CI H-9; SH-6. I, II. PR: NUR 359, PMC 362, MIC 365, and NUR 372. Planned to help students gain an understanding of mental health and mental illness and to acquire basic skills in caring for mentally ill persons. The essence of the course is the concept of psychological stress and man's response in terms of his adaptive abilities. Nursing intervention is designed to enable the individual to improve his capacity to cope with his environments. A problem-solving approach is used to study the behavior of individuals and groups and to increase the student's understanding of the dynamics of human behavior and interpersonal processes. Clinical laboratory experience is provided in hospitals and in other community settings.

359 Foundations for Nursing Practice I. LH-5; Lab H-4; CI H-5; SH-8. Enables student to see himself as becoming a professional person through the introduction of theory

and skills basic to the practice of nursing. Theory emphasizes the nature of man, man's adaptation to stress, man's entry into the health care system, and the development of a general concept of nursing. Includes supervised clinical experiences to assist the student to use theoretical material in the application of the nursing process to the needs of individuals in a variety of settings.

369/469 Nursing of Children. LH-3; CI H-9; SH-6. I, II. PR: NUR 359. Furthers the student's ability to use the nursing process to assist children and their families in making therapeutic adaptations on the wellness-illness continuum. Theoretical content is presented in relation to illness and promotion of health in a developmental sequence within a family-centered framework. Clinical experience provides the student with opportunities to care for parents and their children who may be either ambulatory or moderately to acutely ill who require nursing intervention encompassing preventive, therapeutic, habilitative, and rehabilitative aspects.

372 Theory of Family and Group for Nursing Practice. LH-2; SH-2. II. PR: NUR 359. To assist the student with nursing intervention in families and groups. Emphasis is on the family as a system, communication within the family, major stressors in the family, and the theory of groups. Supervised clinical application is provided in clinical nursing courses.

419 Elective Study. SH-1 to 5. I, II, S. PR: consent. Supervised study and/or clinical laboratory planned to meet the learning objectives of the student.

471 Managerial Theory for Nursing Practice—Health Care Systems and Situations. LH-3; SH-3. I. PR: NUR 372. CR: a clinical nursing course. Designed to enable the student to explore and acquire working knowledge of selected concepts and principles of administration and management within the health care systems and situations. Working in groups, students utilize theory in case presentations and problem solving. The course establishes a baseline for assuming leadership roles.

472 Dimensions of Professional Nursing. LH-2; SH-2. II. PR: NUR 471. CR: a clinical nursing course. A theory course with the goal of students broadening their concept of nursing by focusing on issues confronting the profession today. A major component of the course is an introduction to nursing research.

478 Introduction to Public Health Science. LH-2; SH-2. I, II. Presents the evolution and principles of modern public health practice and their application to current trends in health care. Content includes demography, epidemiology, community health services, public health care and administration, and international health. Correlation of these principles with the holistic approach to the provision of health services and health care is emphasized.

479 Leadership and the Nursing Process. LH-1; CI H-12; SH-5. II. PR: all courses of the first three semesters. Provides senior students opportunities for synthesis and knowledge in complex nursing situations. Seminars focus on nursing problems encountered in the care of persons of different ages. The clinical component includes care of

individuals as well as groups of patients and the opportunity to practice management skills as a team leader. Clinical experience in a choice of clinical areas is provided in MCV Hospitals and other area hospitals.

489 Community Health Nursing. LH-1; CI H-12; SH-5. I, II. PR: all 300-level courses. PR or CR: NUR 471. Emphasizes the application of the nursing process with people in their natural environments under normal or stressful conditions. Such natural environments may include the home, school, work, and other community settings. Over an extended time, the student has the opportunity to study health needs of selected families and population groups, and to incorporate the nursing process together with public health concepts and principles of management in nursing in a community.

492 Experiential Management Seminar. LH-1; SH-1. II. CR: NUR 479 or 489. Focus on application of managerial theory to students' clinical practice experiences in acute and ambulatory care settings. Provides opportunity to develop concept of professional responsibility in the leadership role and to expand communication skills in group situations.

GRADUATE FACULTY

Professors: Yingling (Dean); Repp (Assistant Dean, Graduate Program); Spaulding (Chairman, Maternal-Child Nursing); Wiley (Chairman, Psychiatric-Mental Health Nursing)
Associate Professors: Clegg; Crummette; Henry; Kissinger; Munjas; Olgas (Chairman, Medical-Surgical Nursing)
Assistant Professors: Hamric; Strauss

Cooperative Graduate Education Program

Assistant Professor: Guerin

Nursing Research

Professor: Francis
Associate Professor: Exley

GRADUATE

The descriptions provided here are for the courses in the major in nursing and are restricted to students in this major. Please see other sections in this bulletin for courses in other departments; viz., genetics, biostatistics, physiology, and other basic sciences.

Courses in related fields and cognate areas which are offered at the Academic Campus are described in the *VCU Graduate Studies Bulletin*. Lecture hours may be used as seminar in which case the hours are doubled.

500 Advanced Community Health Nursing. LH-2; CI H-8; SH-6. II. PR: NUR 575. Advanced concepts and theories basic to the study of individuals and families in the community. Advanced nursing practice in examining

selected conceptual frameworks for family analysis and nursing intervention is provided through intensive work with families encountering problems on an illness-wellness continuum.

501 Advanced Community Health Nursing. LH-2; CI H-8; SH-6. I. PR: NUR 575, 500. Theories and concepts basic to health needs of populations and of change strategies related to community organization and action for health. Clinical practice with families and selected community health planning groups focuses on the role of the nurse as a change agent.

502 Assessment in Family Nurse Practice. LH-7; CI H-12; SH-10. I. Concurrent with graduate physiology. Focuses on development of assessment component of the family nurse practitioner role. Didactic content taught by a multidiscipline faculty covers common physical, mental, and developmental problems presented by children and adults in ambulatory settings. Supervised practice covers history taking, physical examinations, screening and diagnostic procedures, and interpretation of selected laboratory findings.

503 Clinical Judgment in Family Nurse Practice. LH-7; CI H-12; SH-10. II. PR: graduate physiology and NUR 502. Didactic content taught by a multidiscipline faculty continues to increase students' competency in identifying health illness status of children and adults in ambulatory settings. Supervised practice covers increasing responsibility for accuracy and breadth of assessment and clinical judgments. Practice includes experiences with family nursing where advanced theory on family dynamics, counseling, teaching, and coordination as practiced by the specialist in community health nursing are synthesized with the assessment and clinical judgment skills of the nurse practitioner.

504 Management of Common Health Problems of Children and Adults in Family Nurse Practice. LH-1; CI H-20; SH-6. III. PR: NUR 503. Focuses on development of management component of the family nurse practitioner role by assigning students to a physician delivering primary care. The student develops a small caseload of families to manage, to assist family units in developing positive health behavior, to evaluate responses to management plans, and to experience the degree of dependency-independency required to carry out the role functions of the family nurse practitioner. Seminars cover practice-oriented issues and experiences in role development in practice.

505 Nurse Practitioner Practicum. LH-1; CI H-8; SH-3. I, II. PR: NUR 500, 501, or concurrent; FNP course sequence. Concentrated study and clinical practice in an area of interest. This may be a clinical experience only or one which integrates the teaching, supervisory, or consultant component of the practitioner role.

513 Practicum in Supervision. LH-1; CI H-8; SH-5. I. PR: third semester standing. Philosophy, purposes, and elements of the social role of the contemporary supervisor as a developer of human resources and as a functioning member of organizational structures taught through selected supervised practice.

520 Advanced Medical-Surgical Nursing. LH-2; CI H-8; SH-6. I. II. PR: NUR 575, PIO 401, or equivalent.

Theory and practice directed toward nursing assessment and interventions needed by clients and their families.

521 Advanced Medical-Surgical Nursing. LH-2; CI H-8; SH-6. I. PR: NUR 575, PIO 401, or equivalent. Theory and practice directed toward nursing interventions and resources needed by clients and their families. Factors affecting the implementation of nursing interventions will be incorporated.

531 Maternal Child Nursing Concepts. LH-2; SH-2. I. PR or CR: NUR 575. In depth study of key concepts in the childbearing and childrearing years which have implications for nursing action in both maternity nursing and nursing of children. Emphasis is placed on childbearing and childrearing as a continuum within which health oriented crisis situations occur in varying frequencies. These crisis situations have potentially disorganizing effects on the family unit. Appropriate nursing action to assist the family in reestablishing equilibrium will be covered.

532 Advanced Maternal-Infant Nursing I. LH-1; CI H-8; SH-5. II. PR: NUR 575 and 531. Theory and practice are directed toward the concepts that the care of the mother and her newborn is a continuous integrated process, centered on the family in interaction with the physical and social environment.

533 Advanced Maternal-Infant Nursing II. LH-1; CI H-8; SH-5. I. PR: NUR 575 and 531. Theory and practice are directed toward study of normal and abnormal physiological and psychosocial patterns associated with intrapartal and post-partal periods of pregnancy. Emphasizes assessing, planning, implementing, and evaluating comprehensive nursing care.

534 Primary Health Care in OB-GYN Nursing. LH-10; CI H-16; SH-12. III. PR: NUR 575, 531, 532, and graduate physiology. This course provides the student with the knowledge and skill necessary to provide primary care to women in the areas of maternity and gynecologic care.

535 Primary Health Care in OB-GYN Nursing Practicum I. CI H-16; SH-5. I. PR: NUR 534. This course is designed to provide the student with intensive clinical experience in the areas of maternity and family planning for clients in primary care.

536 Primary Health Care in OB-GYN Nursing Practicum II. LH-1; CI H-16; SH-5. II. PR: NUR 535. This course is designed to provide continued intensive clinical experience and an opportunity to integrate the functional role of nurse practitioners with advanced nursing theory.

542 Advanced Nursing of Children I. LH-1; CI H-8; SH-5. II. PR: NUR 575 and 531. An eclectic approach to the nursing care of infants, toddlers, and preschool children. The family is included as the primary socializing agent of the child. Relationships among family members and with outside support systems are analyzed. Emphasis is placed on attaining and maintaining health and preventing illness. Behaviors typically expressed during periods of stress and adaptation are included and interventions are discussed. The laboratory provides opportu-

nities for applying the nursing process in the care of children and families.

543 Advanced Nursing of Children II. LH-1; CL H-8; SH-5. I. PR: NUR 575 and 531. An eclectic approach to the nursing care of children through the study of the important theories and ideas related to child development and health care needs and the application of this information in the nursing care of school age children and adolescents.

544 Primary Health Care in Pediatric Nursing. LH-7; CL H-16; SH-11. II. PR: NUR 531, NUR 575, and graduate physiology. The concept of primary care is explored with emphasis on the nurse as a provider of primary health care services for children and their families in collaboration with a physician.

545 Primary Health Care in Pediatric Nursing. LH-1; CL H-24; SH-7. III. PR: NUR 531. Designed to provide intensive clinical experience in the areas of health promotion and maintenance and treatment of the child with acute or chronic illness with preceptor collaboration.

546 Primary Health Care in Pediatric Nursing II. LH-1; CL H-16; SH-4. I. PR: NUR 545. Designed to provide further intensive clinical experience in the areas of health promotion and maintenance and treatment of the child with acute or chronic illness with preceptor collaboration.

551 Advanced Psychiatric-Mental Health Nursing. LH-1; CL H-2; SH-2. I. PR or CR: NUR 575. Focuses on interpersonal interaction based on a theory of human values in which concepts such as identity, acceptance and esteem, communication, autonomy, and authenticity are stressed. Theory related to systems analysis used to study the milieu. Content provides basis for the care of individual patients and use of the nursing process within the therapeutic community.

552 Advanced Psychiatric-Mental Health Nursing. LH-2; CL H-8; SH-6. II. PR: NUR 551. A continuation of the study of human values and of specific psychiatric nursing concepts such as anxiety and fear. Provides theory dealing with the study of families and family therapy. Clinical practicum provides additional depth in the care of an individual patient and his family and in the care of groups of patients. Practicum may cut across clinical and/or agency boundaries according to individual interest and needs of the student.

553 Advanced Psychiatric-Mental Health Nursing. LH-2; CL H-8; SH-6. I. PR: NUR 551, 552. Focuses on the synthesis of previously learned psychiatric nursing theory and material from related areas in the assessment of community dynamics and potentials as they affect the mental health of persons within the community. Focus of the clinical practicum is upon community living.

555 Group Seminar. LH-1. SH-1. I. Series of group seminars designed to promote theoretical understanding of group dynamics and psychotherapies in terms of objectives and techniques. Opportunities provided for personal growth through sensitivity training. First seminar focuses on experiential learnings of group and self dynamics.

556 Group Seminar. LH-1; SH-1. II. PR: consent. Designed to provide theoretical understanding of such group dynamics as process, content, pressure, and feedback.

557 Group Seminar. LH-1; SH-1. I. PR: consent. Devoted to objectives and techniques involved in the various group psychotherapies, including such groups as supportive, guidance, insight-oriented, encounter, marathon, sensitivity training, couples, and family therapy.

571 Teaching Practicum. LH-1; CL H-8; SH-5. I, II. PR: six credit hours education courses and 10 credit hours nursing courses. Concentrated study in classroom and clinical teaching content. Supervised practice teaching is provided with undergraduate nursing students under the direction of master teachers.

573 Selected Clinical Practicum. LH-1; CL H-8; SH-5. I. PR: methods of research, statistics, 10 credits in nursing courses. Concentrated study and clinical practicum directed toward clinical specialist preparation in the major area of interest.

575 Contemporary Nursing. LH-3; SH-3. I, S. A core course designed to provide knowledge of theories, practices, and procedures common to nursing prior to specialization. All graduate students will participate in seminars course in conjunction with lectures. It is required prior to any course in the area of specialization with the exception of NUR 551 which is taught concurrently.

577 Special Topics in Nursing. SH-1 to 3. I, II, S. PR: 10 semester hours in the major independent study of specific topics in nursing covered briefly in the more general courses.

611 Methods of Research. LH-3; SH-3. PR: statistics preferred. Focus is on the methods and processes of systematic investigation; critical analysis of studies; and relationships among theory, research, and practice leading to the development of a thesis proposal.

612 Research Seminar in Nursing. LH-1; SH-1. II. PR: NUR 611. Examines practical problems in the implementation of nursing research.

630 Thesis. SH-6. Required of all students, the master's thesis constitutes carefully planned and executed research under the supervision of an advisor and in conjunction with a thesis committee. The student writes and presents the required thesis in the area of clinical nursing interest.

Certificate Nurse Practitioner Programs

HISTORY

The family nurse practitioner certificate program began in 1972 and was followed by the obstetric/gynecologic nurse practitioner program in 1975 and the pediatric nurse practitioner program in 1976. All of these programs are conducted as joint endeavors of the

Schools of Nursing and Medicine. The FNP program is under administrative control of the Center for Community Health while the OGNP and PNP programs are administered through the School of Nursing.

PURPOSE AND OBJECTIVES

The purpose of the programs is to provide registered nurses with the necessary skills and clinical expertise to provide comprehensive health care to families, women, or children in a collaborative relationship with primary care physicians.

The objectives of the programs are to prepare nurses to integrate their nursing skills in direct care, coordination of care, health teaching, and counseling with ability to:

Identify the health status of the individual by taking a health history, performing an appropriate physical examination, and initiating appropriate preventive screening and diagnostic procedures;

Assume responsibility for the management of minor trauma and common health problems of the individual with appropriate intervention;

Assume responsibility for on-going health maintenance and clinical management of stable, chronically ill individuals;

Identify the need for continuity of care for individuals and families and coordinate the health care needs of patients through appropriate intervention, consultation, and referrals based on data obtained by the nurse practitioner or other members of the health care team;

Provide relevant health instruction, counseling, and guidance to individuals and families;

Relate individual and family health problems to the community and identify emerging health problems by working with local health organizations and agencies.

ACCREDITATION

All three programs are approved by the joint committee of the Boards of Nursing and Medicine. Graduates are eligible to apply for certification.

ADMISSION REQUIREMENTS

Applicants to the certificate programs must be registered nurses with education prepara-

tion at the diploma, associate, baccalaureate or post-baccalaureate levels; currently licensed to practice in Virginia; completed a minimum of one year of nursing experience in an appropriate area; actively practiced nursing within the past five years or recently completed a refresher course.

A personal interview is required. Preference is given to applicants who are from a geographic area in great need of primary health care, have a commitment from a physician to provide a preceptorship or employment, and have primary nursing experience.

Decisions regarding admission will be made in April. Deadline for acceptance of the application is March 31 preceding August admission. A non-refundable application fee of \$10 is required. For admission application, write to Coordinator, Nurse Practitioner Programs, Medical College of Virginia, Virginia Commonwealth University, MCV Station, Box 544, Richmond, VA 23298.

FEES AND TUITION

See page 19.

FINANCIAL AID

A few stipends may be available. Information may be obtained by writing to the Coordinator, Nurse Practitioner Programs at the address above, or from the Financial Aid Officer, Medical College of Virginia, Virginia Commonwealth University, Box 244, MCV Station, Richmond, VA 23298.

PROGRAM DESIGN

Family Nurse Practitioner On and Off-Campus Programs. Both programs, 12 months in length, are designed to prepare non-degree seeking students as family nurse practitioners. The training period encompasses eight months of didactic and practice experience and four months of preceptorship in a projected employment situation. The curriculum focuses on providing primary health care to individuals of any age and the family as a unit. Emphasis is placed on assisting students with the process of role identity and realignment.

The Off-Campus Program will be offered beginning in the fall of 1979 in Southwest Virginia. Students must be residents of the southwest area to be eligible for the program.

Students will be required to be on the MCV Campus for the first two months of the program. The remaining 10 months will be conducted in the area of the program site with the students returning to the MCV campus every five to six weeks.

Both programs are a full time activity. Outside working commitments are not recommended.

Pediatric Nurse Practitioner. The program focuses on providing primary health care services for children and adolescents. It is one academic year in length (nine months). The first five months consist of didactic instruction while the last four months are a preceptorship in which the student practices under the supervision of an assigned physician.

Obstetric-Gynecologic Nurse Practitioner. This is a 12 month program to prepare ob-gyn nurse practitioners to function as primary care agents for women throughout their life cycles. The curriculum expands the nurse's knowledge and skills in assessing, monitoring, maintaining, and promoting the health care of women from pubescence. special emphasis is given to maternity care, parenting, newborn assessment, human sexuality, family planning, gynecologic health screening, cancer detection, and venereal disease control. The program encompasses six months of didactic and clinical practice experience and six months of preceptorship in a projected employment situation.

FACULTY

Nurse Coordinator: Judith B. Collins

Co-Program Directors, Family Nurse Practitioner Program: William F. Spencer, M.D.; Elizabeth McCord, F.N.P. (Acting)

Co-Program Directors, Obstetric-Gynecologic Nurse Practitioner Program: Emily Coogan, O.G.N.P.; Robert E. Petres, M.D.

Co-Program Directors, Pediatric Nurse Practitioner Program: William H. Bruch, M.D.; Janet B. Younger, P.N.P. Assistant Professors: Dunn; Lavecchia; Youngkin; Instructors: Cupit; Passarelli; Parker; Taurer

COURSES OF INSTRUCTION (NUP)

400 Clinical Physiology. LH-16; SH-1. I. This is a core course designed to strengthen students concepts of physiology which are directly applicable in the clinical situation. The course is taught by the use of a self-instructional module and supplemental seminars.

402 Fundamentals of Nurse Practitioner Practice. LH-180; CH-24; SH-12. I. This is a core course required

for FNP, OGNP, and PNP students. Content includes history taking, physical assessment, screening and diagnostic laboratory procedures, and interviewing and counseling techniques. The course also includes core concepts of ob/gyn and pediatrics, beginning concepts of primary health care issues and systems, and role development.

411 Family Nurse Practitioner in Primary Health Care I. LH-69; CH-76; SH-6. I. PR: NUP 400, 402. This course provides the student with the opportunity to acquire didactic knowledge and selected clinical practice in the delivery or primary health care to adults and children. Didactic content, presented by interdisciplinary faculty, covers physical, mental, and developmental problems presented by adults in ambulatory settings. Family content builds on material presented in NUP 402, and the student begins to work with a family in the field. Supervised clinical practice will provide the student with the opportunity to integrate content gained in NUP 402 with the didactic content in health problems of adults and children by physiological systems.

412 FNP in Primary Health Care II. LH-261; CH-240; SH-22. II. PR: NUP 411. Continuation of NUP 411. This course provides in-depth didactic content in common health problems of individuals and families with supervised practice in selected clinical areas, with emphasis on integrating the additional didactic content. There is further family didactic content and practice, building on the family content in NUP 402 and 411 with the student integrating the concepts and techniques in the family experience. The student will have a three week elective clinical experience in an area of choice.

413 FNP Preceptorship. LH-24; CH-560; SH-11. S. PR: NUP 412. This course provides the student with full-time practice with an approved preceptor delivering primary care in a projected employment site and continuing content relative to physical, mental, and developmental problems encountered in the preceptorship. The student develops a small caseload of individuals and families to manage, to assist in developing positive health behavior, to evaluate responses to management plans and to experience the degree of dependency - independency required to carry out the role functions on the FNP. Focus is on development of the management component of the FNP role. Seminars focus on practice oriented issues and experiences in role development in practice.

434 Obstetric/Gynecologic Nurse Practitioner in Primary Health Care. LH-164; CH-220; SH-15. I. PR: NUP 400, 402. This course provides the student with the opportunity to acquire in-depth didactic knowledge and selected clinical practice in the delivery of primary health care to women from puberty throughout the life cycle. Theoretical content will focus on the care of women throughout the maternity cycle and on the gynecologic health problems of women. Supervised clinical practice will provide the student with the opportunity to integrate content gained in Fundamentals of Nurse Practitioner practice with in-depth ob/gyn content.

435 OGNP Preceptorship I. LH-18; CH-340; SH-6. II. PR: NUP 434. This course is designed to provide the student with intensive clinical experience in the delivery of maternity, gynecologic, and family planning services

102 School of Nursing

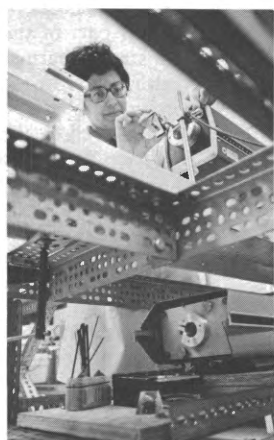
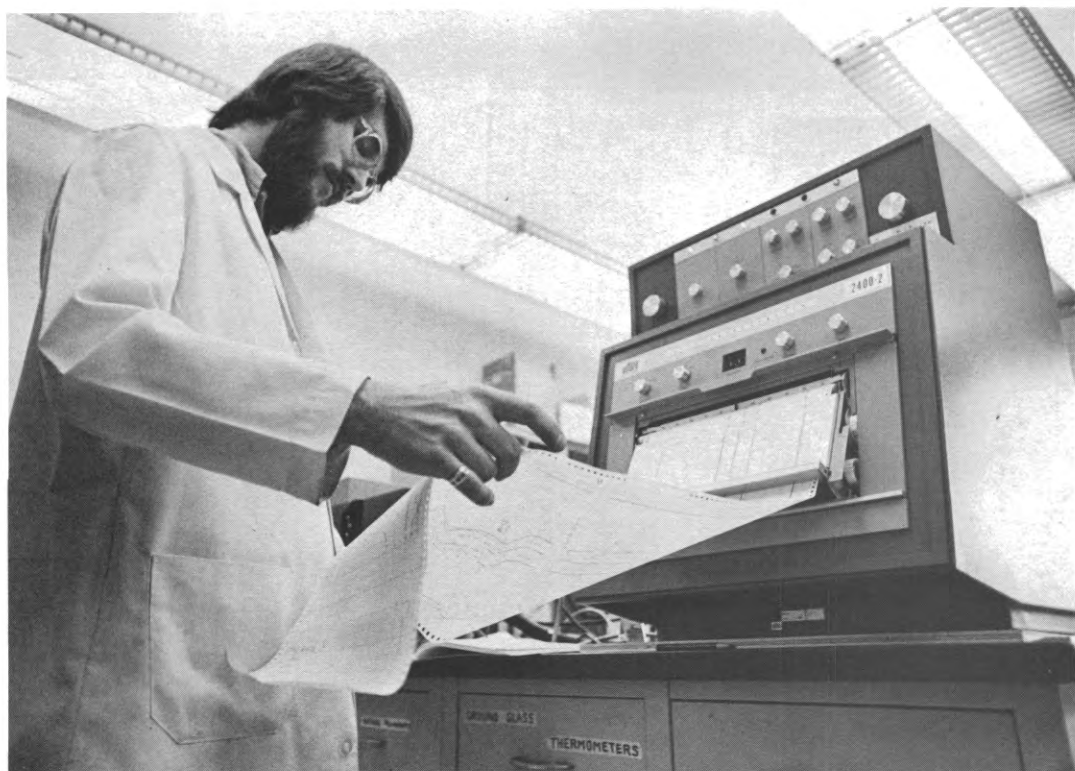
for clients in primary care settings. The student will engage in practice with an approved preceptor in a projected employment site.

436 OGNP Preceptorship II. LH-18; CH-34; SH-6. S. PR: NUP 435. This course, which is a continuation of NUP 435, is designed to enable the OGNP to increase expertise in the delivery of primary health care. Emphasis is placed on the integration of didactic knowledge with clinical practice to develop the role functions of the OGNP.

444 Pediatric Nurse Practitioner in Primary Health Care. LH-138; CH-154; SH-12. I. PR: NUP 402. This course focuses on common conditions and management problems of children and adolescents. Content is selected

epidemiologically. Emphasis is placed on recognition of selected conditions and out patient management and follow-up. Content will include pertinent historical data for each condition and the use of pharmacological agents used in management; a child growth and development and parenting behaviors.

445 PNP Primary Care Preceptorship. LH-16; CH-640; SH-12. S. PR: NUP 444. A clinical preceptorship provides opportunity for the student to apply knowledge and skills in a particular practice setting under the guidance of a selected preceptor. The preceptor may be a pediatrician or a pediatric nurse practitioner who has been approved by the program and who is thoroughly familiar with the content and objectives of the program.



PART VI—School of Basic Sciences

Daniel T. Watts, Ph.D.

Dean

Joseph V. Formica, Ph.D.

Assistant Dean

Basic sciences have historically been an integral part of the curriculum of medicine, dentistry, pharmacy, nursing, and allied health fields. In the earlier years of this university, the basic sciences departments were administered by the School of Medicine with the dean of that school working with a committee of deans to establish policy for the teaching of the basic sciences in the several professional schools. In 1966, by the action of the Board of Visitors, a separate School of Basic Sciences and Graduate Studies was established and a dean was appointed as administrative head of the school. In 1974, with the establishment of a university-wide graduate program, it became the School of Basic Sciences. The Ph.D. programs at MCV continue to be administered through the dean of the School of Basic Sciences who serves as chairman of the MCV Graduate Committee.

PROGRAM

All departments in the School of Basic Sciences provide instruction in their disciplines for students in the other schools on the MCV Campus. By developing large, strong departments with a good balance of faculty, postdoctoral fellows, and graduate assistants,

it is possible to provide quality instruction for all the health profession schools, and to maintain strong research, M.S., and Ph.D. programs; including combined M.S. or Ph.D.; M.D. or D.D.S. programs.

PH.D. AND M.S. PROGRAMS IN THE SCHOOLS OF BASIC SCIENCES, MEDICINE, AND PHARMACY

The graduate programs in the Schools of Basic Sciences, Medicine, and Pharmacy at the Medical College of Virginia are under the supervision of a Graduate Committee which is composed of one faculty member from each department offering graduate degrees. The dean of the School of Basic Sciences serves as chairman of this committee, and assumes the administrative responsibilities for admission, curriculum, and awarding of degrees.

The current membership of this committee is: Dr. Juan A. Astruc, anatomy; Dr. Edwin S. Higgins, biochemistry; Dr. Sung Choi, biostatistics; Dr. Alex Clarke, biophysics; Dr. Jo Ann Boughman, genetics; Dr. Phillip B. Hylemon, microbiology; Dr. William L. Dewey, pharmacology; Dr. Alfred J. Szumski, physiology; Dr. George W. Gander, pathology; Dr. Marvin Boots, pharmaceutical chemistry; and Dr. John H. Wood, pharmacy and pharmaceuticals. Committee members are appointed by their respective deans upon the recommendation of the department chairmen.

The committee meets monthly, or more often if necessary and establishes and maintains admission requirements and rules and procedures for awarding the M.S. and Ph.D. degrees. Courses to be offered for graduate credit in these schools must have the approval of this committee, following the rules and guidelines established by the University Graduate Council.

REQUIREMENTS FOR ADMISSION

1. The purpose of admission requirements and procedures is to encourage applications from competent students and to insure selection of those whose motivation, ability, education, and character qualify them to successfully pursue graduate study in preparation for a scientific career.
2. To be considered for admission to graduate programs, all applicants must have earned a baccalaureate or an equivalent degree, prior to admission. Additional entrance requirements for specific programs of graduate study are stipulated by the several departments.
3. The following credentials constitute an application and should be sent to:

Dean, School of Basic Sciences, Medical College of Virginia, Virginia Commonwealth University, MCV Station, Box 110, Richmond, VA 23298.

- a) Application for admission on a form furnished to the applicant on request. A fee of \$10, in the form of a check or money order (payable to VCU), must accompany the application. The fee cannot be returned nor credited toward tuition payment.
- b) Official transcripts of all undergraduate and graduate records, sent directly from the college or university registrars to the Office of the Dean, School of Basic Sciences.
- c) Letters of recommendation from three present or former teachers, or others believed by the applicant to be qualified to evaluate fitness to engage in graduate study for the degree in the field of choice.
- d) A personal letter from the applicant summarizing his motivation, education, and aims in pursuing graduate study.

- e) A recent photograph, passport size (optional).
- f) Verbal and quantitative portions of the Graduate Record Examination are required. Advanced tests (biology, chemistry, physics, or mathematics) are recommended where appropriate. The Medical College Admission Test or Dental Aptitude Test is acceptable in lieu of the Graduate Record Examination for combined degree programs. Scores are to be sent to the dean. (For information on this examination, write to: Educational Testing Service, Box 955, Princeton, New Jersey 08540.)
- g) Foreign applicants who do not use English as their natural language must have a TOEFL score greater than 550.

4. Acceptance of an applicant rests with the dean of the School of Basic Sciences upon recommendation of the chairman of the major department.

REGISTRATION

While most students register for the first semester, beginning in August, arrangements may be made to initiate graduate work at other times during the academic year.

SCHOLARSHIPS, ASSISTANTSHIPS, AND FELLOWSHIPS

Graduate students may apply for a number of state or federal teaching assistantships, scholarships, or fellowships, including the A. D. Williams fellowships (college endowment). These usually pay \$3,000–3,900, plus tuition on a calendar year basis.

A brief description of financial aid based on demonstrated need is contained in Part I of this bulletin. Need-based aid programs include National Direct Student Loan, college work-study, and institutional loans.

THE STUDENT'S ADVISOR AND GRADUATE COMMITTEE

1. Each student shall have an advisor and a graduate committee.
2. Appointment and duties of the advisor.
 - a) An initial advisor will be the director of the graduate program of that department, or his designee.

- b) A permanent advisor shall be appointed by the dean upon recommendation of the chairman of the student's major department. Appointment should be made no later than the second semester after acceptance. A change in advisor may be made by the dean upon recommendation of the chairman of the major department.
 - c) The advisor shall be chairman of the student's graduate committee.
 - d) The advisor shall, with the student's graduate committee, have responsibility for the total guidance of the student, subject to the approval of the chairman of the major department and dean of the School of Basic Sciences.
 - e) The advisor shall work out a plan of study with the student.
 - f) The advisor shall supervise the student's research work and thesis preparation and be one of the examiners of the thesis.
 - g) At the close of each academic year, the advisor shall submit to the office of the School of Basic Sciences, a statement covering the progress of the student and recommendations as to whether or not his graduate studies shall be continued.
3. Appointment and duties of the student's graduate committee.
- a) The student's graduate committee shall be appointed by the dean upon recommendation of the student's advisor. The composition of the graduate committee shall be such that all significant areas of the student's course work are presented. For the purpose of examinations and thesis evaluation, and because of special knowledge and distinction in the field of the candidate's work, an additional member, who may be from a different institution, may be appointed to the student's graduate committee by the dean. Changes in the membership of the committee are made in the same way.
 - (i) The committee for the Ph.D. candidate shall consist of a minimum of five members as follows:
 - The student's advisor; two representative members of the graduate faculty of the department in which major work is to be taken; and at least two other representatives of the graduate faculty outside the major department, where feasible, from two different departments.
 - (ii) The committee for the M.S. candidate shall consist of a minimum of three members as follows: the student's advisor; one other representative member of the graduate faculty of the department in which major work is to be taken, and one representative of the faculty outside the major department.
 - b) The student's graduate committee shall work with the student's advisor in guiding the student's graduate program.
 - c) The student's graduate committee shall recommend and approve a degree program (including foreign language requirements) for the student as soon as practical. The proposed M.S. program should be filed with the dean's office no later than the beginning of the second semester of study; for the Ph.D. degree, no later than the beginning of the third semester of study. In approving a foreign language, the student's graduate committee is guided by the importance of that language in the scientific literature of the student's major subject.
 - d) The student's graduate committee shall conduct his oral comprehensive and final examinations and act as moderators for the thesis.

GENERAL REQUIREMENTS FOR GRADUATE DEGREES

1. All full-time graduate students are expected to register for a minimum of 12 semester hours per semester and six semester hours during the summer. This requirement includes research. As an example, when a student is registered for 10 credits in formal courses, he is expected to undertake two or more credits

of research under his advisor or other approved faculty member.

2. Grades are assigned with these values: A - excellent, indicating unusual achievements; B - clearly satisfactory; C - passing; D - unsatisfactory for graduate credit; F - failure. The grade-point value of the grades shall be 4,3,2,1 and 0 for A, B, C, D and F, respectively. No student may take the comprehensive examination if his overall grade-point average is less than 2.5 or if his grade-point average for courses within his major department is below 3.0. Research credits shall not be counted in computing this average, and shall be graded as P - pass satisfactory, or F - fail. Other grade interpretations are described in Part I of this bulletin.

3. All cases of unsatisfactory student performance, including any grade of D or F, failure to pass written or oral comprehensive examinations, or thesis or final examinations require action of the MCV Graduate Committee to permit the student to continue.

4. When a foreign language is required, each foreign language examination shall be given by an examiner approved by the dean. The dean may elect to accept, as evidence of satisfactory foreign language knowledge, a comparable examination at another graduate school.

5. Five or more copies of the thesis (as required) prepared according to standards approved by the school's graduate committee, shall be sent to the student's graduate committee in final form three weeks or more before the date of graduation. (Graduation dates are in May, August, and December.) These copies are to be submitted in temporary binders. Following acceptance of the thesis and passing of the final examination, it shall be the responsibility of the candidate to present to the dean's office five copies of the thesis suitable for binding along with a check to cover the cost of handling.

5. The dean will recommend the granting of a degree, only after all requirements have been fulfilled, including payment of all fees to the university, and after submission of the copies of the thesis for binding. Degrees are not granted *in absentia* unless specific written request is made to the dean and permission granted by him.

MASTER OF SCIENCE

1. Advanced graduate study leading to the Master of Science degree is offered in the Departments of Anatomy, Biochemistry, Biophysics, Biostatistics, Human Genetics, Microbiology, Pathology, Pharmacology, Pharmacy and Pharmaceuticals, Pharmaceutical Chemistry, and Physiology.

2. A minimum of 24 semester hours is required, exclusive of research credits. In practice, it is found that two years of study usually are necessary to complete the requirements. A time limit of five calendar years, beginning at the time of first registration, is placed on work to be credited toward the Master of Science degree. As many as 12 semester hours credit may be given for work previously completed, upon recommendation of the student's graduate committee with concurrence by the dean.

3. Each department, at its own discretion, may stipulate one foreign language requirement for the master's degree. It is strongly recommended that the student satisfy the foreign language requirement as soon as possible after beginning his program. He must do so at least two months before submission of the thesis.

4. Each student conducts a research study under the guidance of his advisor. This study is reported in a thesis, prepared in acceptable form and style. On approval of the thesis by the advisor, the student submits a copy to each member of his/her graduate committee.

5. The thesis is examined by the student's graduate committee members, acting as moderators, who shall decide upon its acceptability. The moderators may confer with one another before making their decision. Each moderator shall report to the dean through the student's advisor when the thesis is acceptable for defense. The thesis is approved only if the moderators accept it unanimously.

6. On approval of the thesis, the student appears for a final oral examination administered by the student's graduate committee (and any appointed additional moderator). The dean, or his appointee, serves as chairman of the examination committee. Final examination shall be open to the faculty, and its time and place (together with the candidate's

name, department, and title of thesis) shall be announced at least seven days in advance.

7. The final examination of an M.S. candidate includes the subject matter of course work as well as the thesis. A favorable vote, with no more than one negative vote, is required for the candidate to pass the examination. Only members of the student's graduate committee and the examiner appointed by the dean shall vote. The dean, or a faculty member representing him, will attend all oral examinations and will cast a vote. No examiner may abstain from voting.

8. The candidate, having fulfilled all the requirements for the degree of Master of Science, is recommended by the dean to the president for the degree.

DOCTOR OF PHILOSOPHY

1. Advanced graduate study leading to the Doctor of Philosophy degree is offered in the Departments of Anatomy, Biochemistry, Biophysics, Biostatistics, Genetics, Microbiology, Pathology, Pharmaceutical Chemistry, Pharmacy and Pharmaceutics, Pharmacology, and Physiology.

2. At least two years in residence are required for entering students holding the M.S., M.D., or D.D.S. degrees and at least three years for those entering with the baccalaureate degree only. A time limit of seven calendar years, beginning at the time of first registration, is placed on work to be credited towards the Doctor of Philosophy degree.

3. A student becomes an applicant for the doctorate when he has been admitted as such to graduate studies. No assurance is given that he will become a candidate for the Ph.D. degree until he has given evidence of superior scholarship.

Before admission to candidacy for the doctorate, the student must have satisfied the language requirements and completed required course work and fulfilled any additional departmental requirements. A student is admitted to candidacy by the dean upon recommendation of his advisor and his graduate committee, with the approval of his major department.

4. The student must satisfy an examiner or examiners approved by the dean that he has a reading knowledge of a minimum of one foreign language. (Each department has the

option of requiring a second language if it chooses.) It is strongly recommended that the student satisfy the foreign language requirement as soon as possible after beginning his program. He must satisfy this requirement at least two months before the written comprehensive examination can be taken.

5. Upon satisfactory completion of all required, formal course work and successful passing of his foreign language examination(s), the student takes written and oral comprehensive examinations. The written examination is administered by the student's major department. The student's committee may require that he have a minor field of study, in which case he will also take a written comprehensive examination given by that department. In the event of failure in the written comprehensive examination in the major or minor department, the student, with the approval of the MCV Graduate Committee, may be permitted to repeat the written examination in the department in which the failure occurred.

After successfully passing the written examination(s), the student will take the oral portion within one month. This examination is conducted by the student's graduate committee. A favorable vote of the graduate committee with no more than one negative vote (all members being required to vote) shall be required to pass the oral portion of the comprehensive examination. The dean or a faculty member representing him will chair the oral examinations and will cast a vote.

If a student passes the written comprehensive examination, but fails the oral part, he may be re-examined only in the oral part with the approval of the MCV Graduate Committee.

The oral comprehensive examination is open to all members of the faculty. Faculty members in attendance may ask questions of the candidate, but their questions *shall not* be presented until after the graduate committee has completed its questions. Faculty members other than those on the committee shall not vote on the success or failure of the candidate. The time and place of the examinations shall be posted at least seven days in advance.

The examination must be successfully completed at least six months before submission of the dissertation.

6. The student must conduct a substantial original investigation under the supervision of his advisor and prepare a dissertation reporting the results of this research and analyzing its significance in relation to existing scientific knowledge.

7. When the dissertation has been completed, five copies, or more as required, in acceptable form and style are submitted to the members of the graduate committee who act as moderators for the dissertation. These moderators decide upon the acceptability of the candidate's thesis. A favorable unanimous vote is required to approve the dissertation and all examiners are required to vote.

8. If the moderators accept the dissertation for defense, the candidate appears before them for a final oral examination. The dean, or his representative, shall serve as chairman of the committee. This examination is open to all members of the faculty. The final oral examination will be limited to the subject of the candidate's dissertation and related matters. A favorable vote of the candidate's moderators, and no more than one negative vote, shall be required for passing the final oral examination. All moderators including the dean or his representative must vote. There shall be prior announcement of the candidate's name and department, and title of dissertation, together with the day, place, and hour of the final oral examination at least seven days in advance.

9. The candidate, having fulfilled all of the requirements for the degree of Doctor of Philosophy, is recommended to the president for the degree.

SPECIAL STUDENTS

Upon recommendation of the department, the dean may admit for individual courses students who are not candidates for a degree. Students must obtain permission from the instructor before being allowed to register. Special students who carry full-time employment will be limited to one course per semester, usually about three or four semester hours credit.

SUMMER REGISTRATION

Graduate students are expected to devote 10 or more weeks during the summer to fulltime research. Students registered for research credit are billed at the established tuition rate.

TRAINING AS A TEACHER

Currently there is increased emphasis on competence as a teacher as well as an investigator for faculty members of colleges, universities, and professional schools. In addition to practical experience, laboratory teaching, and lecturing, students should give consideration to courses offered by VCU School of Education concerning learning theory, instructional strategy, and educational technology in adult education.

A complete listing of courses in education available in the university can be obtained from the School of Education, Office of Graduate Studies, 1001 West Main Street, Richmond, VA 23284, (804)257-1296.

COMBINED M.S./PH.D. AND M.D. OR D.D.S. DEGREE PROGRAMS

Many future physicians and dentists, especially those interested in academic and research careers, need to start in-depth training in research while still in school or residency training. This need can be effectively met by completing the requirements for the M.S. or Ph.D. degree concurrently with the study of medicine or dentistry. The MCV/VCU medical and dental curricula, with free time for elective courses and research, provide an excellent opportunity for interested students to enter a combined M.S./Ph.D.-M.D. or D.D.S. program.

Admission of medical and dental students regularly enrolled in these schools, to this combined degree program is processed through the office of the dean of the School of Basic Sciences by established procedures. The Medical College Admission Test or Dental Aptitude Test is accepted in lieu of the Graduate Record Examination. Undergraduate transcripts and references are obtained from the professional school. No application fee is required since the student is already regularly enrolled in a school of the university.

The requirements for a combined professional school-graduate school degree in basic sciences are equivalent to those required of students seeking a graduate degree alone and are determined by the individual department. One of the graduate committee members is the student's professional school advisor.

The minimum graduate residence requirement is one year for the M.S. and two years

for the Ph.D. degree. Twenty-four weeks of graduate work (two summers) will be considered equivalent to one year of residence. A time limit of five calendar years for the M.S. and seven calendar years for the Ph.D. degree, beginning at the time of first registration in the graduate school, applies to work to be credited toward degrees for students in combined programs.

Medical and dental scientists often need broad training in several of the basic disciplines to meet their objectives. This can be arranged through the appointment to the graduate committee of members from both basic sciences and clinical departments. Admission to graduate study and development of an interdisciplinary program will be channeled through the basic science department in which the student indicates a major interest and will conform to all policies and procedures established by the MCV Graduate Committee. Courses may be taken in a broad area; research will normally be concentrated in one laboratory or department with consultation and advice from related areas and departments through the student's graduate committee.

DEPARTMENTAL RESEARCH INTERESTS

The graduate course offerings and the list of graduate faculty for each department offering graduate work under the administration of the dean of the School of Basic Sciences are given in the appropriate school sections of this *Bulletin*. The pages on which these may be found and brief statements of the research interests of the faculties of the departments follow:

School of Basic Sciences

1. Department of Anatomypage no. 111
Research Interests: ultrastructural studies of ovary, oviduct, cervix, and uterus; maternal accommodations to implantations; experimental embryology; teratological aspects of drug metabolism; control of corpus luteal life span; uterine glycogenesis; comparative neuroanatomy; neurotransmitters; neurophysiology of eye movement; eye differentiation; synaptology; maturation in central nervous system; renal transplantation rejection; ontogeny of the immune system; immunohepatology; immune dysfunction and malignancy; carcinogenesis; oxyhemoglobin affinities; and cytosomes in alveolar cells.
2. Department of Biochemistrypage no. 112
Research Interests: enzyme chemistry; mitochondrial function; cellular control mechanisms; isozymes; cancer; thiamine metabolism; biogenesis of mitochondria; genetic control of development and differentiation; nuclear proteins; somatomedin; neuro-chemistry; intracellular protein catabolism; protein and nucleic acid metabolism; steroid and phospholipid metabolism; fluorescence and submicroanalysis; and physical biochemistry.
3. Department of Biophysicspage no. 113
Research Interests: structures and function of proteins and nucleic acids; biophysical characterization of macromolecules; effects of ionizing and nonionizing radiation on the eye and other organs; photobiology; biophysical characterization of artificial and biological membranes; structural and functional analysis of subcellular organelles of normal and pathological tissues.
4. Department of Biostatisticspage no. 113
Research Interests: epidemiological and operational research in health care, determinants of demand in primary care, analysis of observational studies, analysis of survival data with concomitant information, response surface design and analysis, linear statistical models non-parametric function estimation and related areas, pattern recognition, design and analysis of clinical trials, multivariate analysis, analysis of survival data-survival curves, non-parametric statistics, determinants of physician utilization, and epidemiological studies.
5. Department of Human Genetics.....page no. 114
Research Interests: human cytogenetics; somatic cell genetics; biochemical genetics and studies of gene action in pro- and eukaryotes; human population and quantitative genetics, genetic linkage studies; the delineation of new genetic syndromes; identification and treatment of metabolic diseases; carrier detection; genetic counseling, studies of twins and their families; studies of hereditary deafness; behavior genetics.
6. Department of Microbiologypage no. 115
Research Interests: antibiotics and chemotherapy; biophysical characterization of biological macromolecules; animal virology; cellular and tumor immunology; host-parasite relations in bacterial and viral diseases; microbial biochemistry, ecology, genetics, and physiology; molecular biology; membrane transport; cellular differentiation; X-ray crystallography; parasitology; cellular oncology; cancer chemotherapy; immunopotentiality; genetic mechanisms and regulation of prokaryotic and eukaryotic cells; mycology, immunobiology; and medical bacteriology.
7. Department of Pharmacologypage no. 116
Research Interests: drug metabolism; pharmacodynamics; psychopharmacology; cardiovascular pharmacology; clinical pharmacology; toxicology; drug evaluation; and biochemical and central nervous system pharmacology.
8. Department of Physiologypage no. 117
Research Interests: motor and sensory systems; behavior; endocrine regulation of reproduction and thyroid systems; gastrointestinal secretory systems; oxygen transport and delivery systems; topics in general physiology, including mechanisms of solute transport in epithelial and synthetic membrane systems; and excitation-contraction coupling in cardiac, skeletal, and smooth muscle.

School of Medicine

Department of Pathologypage no. 47

Research Interests: biochemical and clinical applications of enzyme and protein immobilization, clinical enzymology, techniques in clinical chemistry, membranes in the pathogenesis of muscular dystrophy, mechanism of complement activation, oral carcinogenesis, mycoplasma-bacterial interactions, bacterial L-forms, immunohematology, immunotherapy of cancer, cerebral microcirculation, blood substitutes, leukemia, sickle cell disease, trace metal metabolism in tumors, drug distribution, diagnostic immunoassays, inflammation, fever, neuro-chemistry and ultrastructure of brain, infectious diseases, paleopathology, and diagnostic virology.

School of Pharmacy

1. Department of Pharmaceutical

Chemistrypage no. 77

Research Interests: synthesis and biological evaluation of new compounds, determination of relationships between chemical structure and biological activity, studies on modes of drug action, theoretical studies on structure-activity relationships of drugs including the use of molecular orbital theory and molecular connectivity, rational design of new drugs, bacterial growth kinetics in the presence of antibiotics. Drug classes under investigation include analgesics, anticoagulants, antimetabolites, antineoplastics, antisickling agents, hypcholesteremics, hypoglycemics, hypotensives, neurotransmitters, peptide antibiotics, psychotropic agents, reversible and irreversible enzyme inhibitors, urolithiasis inhibitors.

2. Department of Pharmacy and

Pharmaceuticspage no. 78

Research Interests: bioavailability studies, factors governing release of drugs from solid dosage forms, micellar nature of drug solutions, drug-protein binding interactions, effects of saturated and competitive metabolism on pharmacokinetics, clinical pharmacokinetics including computer modeling of pharmacokinetics in man and use of individual pharmacokinetic parameters in optimizing dosage regimens, development of analytical methodology for drugs in biological fluids, isolation of new drugs from natural sources.

INTEGRATED CURRICULUM—SCHOOL OF MEDICINE

All basic sciences departments are involved in teaching the integrated curriculum in the School of Medicine. Lectures, conferences, and laboratories are offered during the M-I year, principally by the Departments of Anatomy, Biochemistry, Biostatistics, Genetics, and Physiology. Microbiology and pharmacology are taught mainly in the M-II year. In addition, the basic sciences departments offer electives which are available to medical students throughout their curriculum but primarily in the fourth year.

INTERDEPARTMENTAL BASIC SCIENCES COURSES

Certain courses are taught by two or more departments.

BAS 550-551. Basic Science Core Curriculum for Postgraduate Dental Students. LH-3; SH-3. I, II. This course is designed to provide the postgraduate dental student with the educational experience in the basic science required for the successful completion of his/her specialty training program. Selected lectures in the basic science areas related to dentistry are presented and are supplemented by assigned articles.

COURSES OF INSTRUCTION

Department of Anatomy (ANA)

Professors: Jollie (Chairman); Astruc; Burke, G. (Dentistry)¹; Harris; Seibel

Associate Professors: Ching; Geeraets, R. (Ophthalmology); Goldberg; Haar; Johnson; Jordan; Leichnetz; Owers; Povlishock; Quattropani; Snodgrass; Szakal

Adjunct Associate Professor: Sheppard

Assistant Professors: East; Jackson; Krieg; Lieb; McClung; Mong; Pakurar; Sholley; Spencer.

Instructor: Conway

301 Principles of Human Anatomy (Primarily for pharmacy students). LH-3; Lab H-3; SH-4.5. I. The structure of the human body is surveyed by organ systems which are studied at several levels of organization. Emphasis is placed on basic concepts and their application to various body components.

303 General and Oral Histology (Dental Hygiene). LH-3; SH-3. I. A lecture course in the microscopic anatomy of general body tissues and of the oral cavity. With ANA 501 for two months.

305 Embryology (Physical Therapy). LH-1; SH-1. I. A study of the development of the form of the human body emphasizing structural and developmental relationships between the musculoskeletal and nervous systems.

501 Microscopic Anatomy (Dentistry). LH-3; Lab H-6; SH-6. I. A study of the normal tissues and organs of the human body at the microscope level, with emphasis on the histological organization and development of the oral cavity.

502 Gross Anatomy (Dentistry). LH-3; Lab H-8.5; SH-7.5. II. A systematic dissection and study of the human body with clinical correlation and emphasis on the head and neck.

503 Introduction to Facial Growth and Development (Dentistry). LH-2; SH-2. I. This is a conjoint effort with the Departments of Anatomy, Pedodontics, Orthodontics, Periodontics, and the Division of Occlusion par-

¹ Department in parentheses indicates joint appointment.

icipating. Its purpose is to introduce the dental student to the child patient in his first year and to provide him with knowledge on the sites of facial growth and important anatomical landmarks used in the clinic.

504 Neuroanatomy (Dentistry). LH-1.5; SH-1.5. II. This course provides the student with a wide exposure to the field of neuroanatomy. The structure and connections of the brain and spinal cord are stressed so that the student is prepared to deal with physiological, pharmacological, and clinical aspects presented in other courses.

505 Anatomy of the Head and Neck (Dentistry). LH-2; Lab 4-H; SH-3. I. PR: ANA 502. The course provides a comprehensive review of head and neck anatomy with application to clinical conditions. It is of special interest to junior dental students and others concerned with detailed knowledge of the head and neck.

506 Head and Neck Anatomy (Dental Hygiene). LH-3; Lab H-9; SH-3. II. An overview of head and neck anatomy with emphasis on oral structures. Lectures and laboratory with ANA 502 for one month.

509 Gross Anatomy. LH-3; Lab H-12; SH-9. I. (Alt. yrs. '80-'81.) A graduate level, in-depth study of human anatomy at the gross level. Though intended primarily for graduate students in anatomy, this course will prove useful for all graduate students desiring a thorough knowledge of human gross anatomy.

510 Neuroanatomy. LH-4; SH-4. II. (Alt. yrs. '80-'81.) An in-depth study of the structure, connections, and function of the central nervous system. ANA 510 and 512 constitute a complete graduate level neuroanatomy course.

511 Microscopic Anatomy. LH-3; Lab H-6; SH-6. II. (Alt. yrs. '79-'80.) A graduate level, in-depth study of human anatomy at microscopic and fine structural levels.

512 Neuroanatomy Laboratory. Lab H-2; SH-1. II. (Alt. yrs. '80-'81.) PR: ANA 510 (concurrently or equivalent.) A complement of ANA 510 which trains the student to study the central nervous system through the use of literature and actual gross and histological preparations.

513 Advanced Studies in Anatomy. LH-3; Lab H-6; SH-6. I. An in-depth course in specific areas of anatomy: histology, gross anatomy, and neuroanatomy.

514 Techniques in Electron Microscopy. LH-2; Lab H-6; SH-5. II. PR: ANA 501. Students are taught the basic techniques and theories of ultra-microtomy and electron microscopy, as well as the use of the electron microscope.

590 Anatomy Seminar. LH-1; SH-1. I, II. This course is a joint effort by the faculty and graduate students of the Department of Anatomy. Reviews and reports of original research and significant advances in the basic medical sciences are submitted.

690 Research in Anatomy. SH-1-15. I, II, S.

Department of Biochemistry (BIC)

Professors: Martinez-Carrion (Chairman); Banks; Higgins; Liberti; Rogers; Rothberg (Dermatology)¹; Scott (Hematology)

Associate Professors: Bond; Brandt; Collins; DeVries; Elford; Kline; Schirch; Shelton

Assistant Professors: Chlebowski Diegelmann (Surgery); Evans; Grogan; Peterson; Shaw; Van Tuyle

Instructor: Zito

302 Biochemistry (Pharmacy). LH-4; Lab H-3; SH-5.5. II. PR: PHC 301 or equivalent. A presentation of structural biochemistry, intermediary metabolism, physiological chemistry, and nutrition as a part of the fundamental background of modern pharmacy.

304 Biochemistry (Undergraduate). LH-3; SH-3. II. PR: CHE 301-302 or equivalent. A presentation of structural biochemistry, intermediary metabolism, and nutrition. Undergraduate students desiring biochemistry laboratory with lectures should enroll in BIC 302. Permission of instructor required.

501 Biochemistry (Dentistry). LH-4; Lab H-2; SH-5. I. PR: organic chemistry. A presentation of structural biochemistry, intermediary metabolism, physiological chemistry, and nutrition as part of the fundamental background of modern dentistry.

503-504 General Biochemistry. LH-3; SH-3. I and II. PR: eight credits of organic chemistry, three credits of physical chemistry, or permission of instructor. Both semesters are required for the comprehensive introductory course for graduate students. BIC 503 is prerequisite for BIC 504.

505-506 Experimental Biochemistry. Lab H-4; SH-2. I and II. PR: BIC 503 (or concurrent) or equivalent, quantitative chemistry. Laboratory work, including theory and practice of biochemical research methods.

510 Biochemical Preparations. SH-2; per preparation. I, II, S. A study of some of the more common biochemical substances by comprehensive written review of the literature and by preparations from biological material.

590 Biochemistry Seminar. SH-1. I, II. Reports on recent biochemical literature and research by students and staff.

601 Lipids. LH-3; SH-3. I. (Alt. yrs. '79-'80.) PR: BIC 503-504. Chemical basis of lipid structure determination and analysis. Treatment of methods for the analysis of lipid structures, micelles, membranes, and lipoproteins. Selected topics of lipid metabolism.

602 Proteins. LH-3; SH-3. II. (Alt. yrs. '78-'79.) PR: BIC 503-504. A physicochemical study of the structure of proteins at the primary and conformational levels.

603 Nutritional Biochemistry. LH-3; SH-3. I. (Alt. yrs. '78-'79.) PR: permission of instructor. Study of chemistry and mechanisms of vitamins and functions of essential elements. Experimental and practical aspects of nutrition.

604 Enzymology. LH-3; SH-3. II. (Alt. yrs. '79-'80.) PR: BIC 503-504. Physical and chemical properties and mechanisms of action of enzymes. Treatment of chemical catalysis, enzyme kinetics, and correlation of enzyme structure to mechanisms.

606 Controls of Metabolic Processes. LH-2; SH-2. II. (Alt. yrs. '79-'80.) PR: BIC 503-504 and permission of instructor. An advanced course on mechanisms by which metabolic processes are controlled.

690 Research in Biochemistry. SH-1-15. I, II, S. Research leading to the M.S. or Ph.D. degree and elective research projects for students in the professional schools.

Department of Biophysics (BIP)

Professors: Weglicki (Chairman); Barnes (Surgery)¹; Cleary; Eckberg (Medicine)

Associate Professors: Clarke; Epstein; Franson; O'Neal; Owens

Assistant Professors: Pang; Ruffolo; Ruth; Williams; Wist (Data Acquisition Facility) Instructor: Rittgers (Surgery)

500 Introduction to Biophysics. LH-4; SH-4. I. Required course for first-year graduate students in biophysics. Principles of atomic and nuclear physics, spectroscopy, ions in solution, molecular structure, thermodynamics, and principles of interaction of physical with biological systems are stressed.

501 Radioisotopes. LH-3; Lab H-2; SH-4. I. Elements of nuclear physics, statistics of counting, radiation dosimetry, health physics, radiation protection, tracer, radiographic techniques, and liquid scintillation and gamma counting techniques.

502 Applied Electronics in Biology and Medicine. LH-2; Lab H-2; SH-3. II. (Alt. Yrs. '79-'80.) Fundamental principles and applications of electronics as related to biological sciences.

504 Computer Technology in the Biomedical Sciences. LH-2; Lab H-2. II. Research and clinical applications of automatic and semi-automatic data acquisition systems. Describes the functions and operations of microcomputers in detail. Development and assembly of microcomputer systems for biomedical application using an educational kit. Students may assemble their own microcomputer driven systems in the laboratory.

510 Advanced Biophysics. LH-4; SH-4. I and II. (Alt. yrs. '79-'80.) PR: thermodynamics and physical chemistry, calculus, and elementary physics. Introduction to statistical mechanics and quantum mechanics.

522 Circuit Design and Analysis. LH-3; SH-3. II. (Alt. yrs. '79-'80.) PR: college physics, calculus. Emphasis is placed on the understanding in depth of the analysis and design of electronic circuits. Designed to meet the needs of quantitatively oriented students.

524 Biophysical Optics. LH-2; SH-2. I, and II. (Alt. yrs. '79-'80.) PR: calculus and elementary physics. First semester deals with theories of optical physics. Second semester will cover principles of photochemistry and photobiology.

590 Seminar. LH-1; SH-1. I, II. Research reports from members of the staff, discussion of special topics, and lectures by visiting speakers. Participation and at least

one presentation each semester by each registered graduate student.

601 Biophysical Principles. LH-4; SH-4. I and II. (Alt. yrs. '79-'80.) PR: BIP 500. First semester includes the basic mathematical theory of X-ray crystal structure analysis including techniques and methods of solving structure of crystals. Detailed discussion of the crystalline structure of several biological molecules. Second semester will include in-depth discussions of the theories covering the techniques used in studying biological macromolecules in solution.

602 Molecular Biology. LH-4; SH-4. II. PR: undergraduate biology and/or chemistry. Chemistry of nucleic acids; protein synthesis; molecular genetics and control; membrane biophysics; molecular basis of disease.

604 Biophysical Techniques. LH-2; Lab H-2; SH-3. II. The principles of the following procedures of methodology will be presented in depth: chromatography, ultracentrifugation, electrophoresis, spectroscopy, electron-spin resonance, and nuclear magnetic resonance. The application of these techniques to biological problems such as tissue fractionation and quantitative analysis of biological membranes will be discussed.

690 Research in Biophysics. SH-1-15. I, II, S. Opportunities are available for graduate students to conduct original investigations under the supervision of members of the staff in molecular biology of myocardial infarction, muscular dystrophy, and lysosomes of phagocytic cells, radiobiology, biological effects of thermal and laser radiation, and other areas of quantitative research on living systems at the molecular level.

Department of Biostatistics (BIS)

Professors: Kilpatrick (Chairman); Carter; Choi; Minton (Arts and Sciences)¹

Associate Professor: Dayal

Adjunct Associate Professor: Flora

Adjunct Assistant Professor: Peace

Instructors: Boyle; Campbell; Segreti

511-512 Methods of Statistical Analysis. LH-3; SH-3. (This is a two-semester sequence. However, BIS 511 may be taken without taking BIS 512.) Basic concepts of statistical methods, statistical measures, variation, distributions, tests of significance, simple nonparametric tests, analysis of variance, concepts of experimental design, regression, correlation; analysis and design of factorial experiments, Latin squares, and others; effects of blocking fractional replication, and confounding.

521 Statistical Principles of Health Care Information. LH-3; SH-3. I. (For graduate students in nursing and physical therapy; others with consent.) A basic introduction to the nature, use, and analysis of hospital and health-care statistics. The collection, presentation, tabulation, and interpretation of statistical data. Classification of measurements and observations, properties of rates, ratios, and indices. Some typical statistical distributions. The use of measure of location and dispersion to describe a distribution. 'Normal' variation and outliers. The elementary laws of probability. The concept of a sampling

distribution, the standard error of the mean and confidence limits in large and small samples, and tests of significance.

524 Statistical Computing. LH-3; SH-3. II. PR: BIS 511, 521, or equivalent. The Statistical Analysis System (SAS) is both a powerful computer language and a large collection of statistical procedures. Students will learn how to create and manage computer data files. Techniques for thorough examination and validation of research data will be presented as the initial step of a complete, computerized analysis. Descriptive statistics will be computed and statistical procedures such as t-tests, contingency tables, correlation, regression, and analysis of variance then applied to the data. Special attention will be paid to the applicability of each procedure. Students will be encouraged to analyze their own or typical data from their discipline.

537 Sampling. LH-3; SH-3. I. (Alt. yrs. '80-'81.) An introduction to the theory and methods of sampling and sample surveys including random, stratified, systematic, and probability sampling, estimation of sample sizes, ratio and regression estimates, and analytical surveys.

538 Epidemiology and Population Research. LH-3; SH-3. I. (Alt. yrs. '79-'80.) Sources of vital statistical data—review of the binomial, poisson, negative binomial distributions as they apply to vital events; summary statistics, rates, ratios, and others; direct and indirect standardization; abridged life tables; principles of epidemiology; interpretation of analytical surveys; problems in the analysis of observational studies in health care and public health; causality; inferences; path analysis; modeling; and crucial observations.

546 Linear Statistical Models. LH-3; SH-3. II. PR: STA 513. Distribution of quadratic forms under normal theory; general linear model of full rank and less than full rank, Gauss-Markov theorem; estimability.

547 Nonparametric Statistics. LH-3; SH-3. I. (Alt. yrs. '79-'80.) Theory of distribution-free and order statistics with emphasis on estimation and hypothesis testing.

590 Biostatistics Seminar. LH-1; SH-1. I, II. Talks by the students, faculty, and visitors describing recent research or reviewing topics of mutual interest.

600 Special Topics in Biostatistics. SH-1-4. I, II. The faculty (including visiting and adjunct professors) from time to time offer courses in newly developing areas of statistics and biometry. For information, contact the department chairman. LH by arrangement. Lab H by arrangement.

641 Advanced Statistical Inference. LH-3; SH-3. I (Alt. yrs. '78-'79). PR: STA 514. Concepts of classical decision theory, the Bayesian approach to decision theory, the use of prior information in arriving at decision procedures, empirical Bayesian tests of hypotheses, estimation of parameters, and other applications. In the second half of this course, the theories of estimation and hypothesis testing introduced in STA 514 will be extended.

642 Methods of Multivariate Analysis. LH-3; SH-3. II. (Alt. yrs. '79-'80.) PR: BIS 511, 546. Introduction to the

theory and methods of analysis of multivariate data; generalization of standard univariate techniques to the multivariate, unionintersection, and likelihood ratio tests; multiple, partial, and canonical correlation; principle component analysis; discriminant analysis.

650 Design and Analysis of Response Surface Experiments. LH-3; SH-3. II. (Alt. yrs. '78-'79.) PR: BIS 511 and 546. Philosophy, terminology, and nomenclature for response surface methodology, analysis in the vicinity of the stationary point, canonical analyses, description of the response surfaces, rotatability, uniform information designs, central composite in design, and modern design criteria.

690 Research in Biostatistics. SH-1-15. I, II, S. For additional related courses, see offerings in mathematical sciences and statistics on the Academic Campus.

Department of Human Genetics (GEN)

Professors: Nance (Chairman); Brown, J.; Mamunes (Pediatrics)¹; Merz (Radiation Biology); Young (Pediatrics)

Associate Professor: Townsend

Assistant Professors: Boughman; Corey; Wolf

501 Introduction to Human Genetics. LH-3; SH-3. I. An introductory course in the principles of inheritance with particular reference to genetic variance in man.

504 Biochemical Genetics. LH-3; SH-3. II. PR: biochemistry. Mechanisms of gene action as illustrated by inherited biochemical defects in man.

511 Human Cytogenetics. LH-3; SH-3. I. PR: GEN 501 or equivalent. A comprehensive survey of the fundamentals of human cytogenetics including mitosis, meiosis, chromosome replication, metaphase chromosome structure, numerical and structural chromosome aberrations, human population cytogenetics, genetic constitution of human chromosomes, and chromosome evolution. Student participation will be through classroom discussion, informal topic presentations, and written literature reviews.

516 Population Genetics. LH-3; SH-3. II. Genetic and ecological factors affecting normal and abnormal variation within and between populations of organisms, especially man.

519 Quantitative Genetics. LH-3; SH-3. I. Methods of analysis of quantitative traits in families and populations.

531 Dental Genetics. LH-1; SH-1. I. The basis of inheritance and variation in man, including simple and complex modes of inheritance, the nature of mutations, human chromosomal aberrations, variation in proteins and antigens, genetic aspects of some syndromes, and birth defects.

590 Genetics Seminar. LH-1; SH-1. I and II. Selected topics in genetics presented by students and staff.

600 Clinical Genetics. LH-1; Lab H-2; SH-2. I and II. PR: GEN 501 or equivalent. Practical experience in the

genetic counseling clinic and on ward rounds. Includes collection and analysis of family histories, genetic counseling, and introduction to genetic nosology.

650 Special Topics in Genetics. SH-1-4. I and II. Lectures, tutorial studies, library assignments in selected areas of advanced study, or specialized laboratory procedures, not available in other courses or as part of the research training.

690 Genetics Research. SH-1-15. I and II. Research leading to the M.S. or Ph.D. degree; elective research projects for students in the professional schools.

Department of Microbiology (MIC)

Professors: Bradley (Chairman); Coleman (Animal Facilities)¹; Dalton (Pathology); Duma (Medicine); Hench (Pathology); Kaplan (Surgery); Madge (Pathology); Regelson (Medicine); Ruddy (Medicine); Shadomy, S. (Medicine); Taub (Medicine); Welshimer

Associate Professors: Formica (Assistant Dean of Basic Sciences); Hsu; Hylemon; John; Keefe; Loria; Macrina; Mohanakumar (Surgery); Morahan; Munson (Pharmacology); Murray; Phibbs; Shadomy, H.J.; Tew; Thomas, J. (Surgery)

Adjunct Associate Professors: Lambert; Tankersley; Tinnell

Assistant Professors: Bick; Cabral, A.; Conrad (Medicine); Cross (Pathology) Holmes; Littman (Medicine); Miller; Schenkein (Dentistry); Shipley; Instructors: Cabral, F.; Roehl

365 Infection and Immunity (Nursing and Dental Hygiene). LH-2; Lab H-2; SH-3. I. A study of infectious diseases of man with emphasis on the distribution properties and roles of pathogenic microorganisms and the varied responses of the host. Principles of prevention, control, and chemotherapy of infectious diseases are major components of the course. Microbiological procedures that relate to nursing and dental hygiene practice are demonstrated, practiced, and evaluated in laboratory exercises and conferences.

401 Microbiology. LH-3; Lab H-3; SH-4.5. I. PR: BIC 302 or equivalent. A study of the fundamental principles of microbiology with special emphasis on those aspects of the subject that are of importance in the control of the disease state. Offered in the School of Pharmacy and open primarily to pharmacy students in the second professional year; others by permission of the instructor.

502 Animal Virology. LH-2; Lab H-4; SH-4. II. A comprehensive introduction to animal virology emphasizing the molecular aspects of viral replication, the cellular responses following viral infection, and host-virus interrelationships.

504 Fundamentals of Microbiology. LH-3; SH-3. I. A comprehensive survey of the fundamentals of microbiology including studies of cell composition and structure, growth and cell division, metabolism and its control,

microbial genetics, taxonomy, and comparative review of the major groups of microbes including viruses, bacteria, fungi, algae, and protozoa.

506 Immunobiology. LH-3; Lab H-4; SH-5. II. A survey of immunobiology as a total host response to foreign agents, covering the nature of antigens and antibodies, antigen-antibody reactions, immunocompetent cells, allergic reactions, tumor immunology, transplantation immunology, and immunogenetics. The laboratory is designed to provide students with practical experience, using basic immunologic techniques which may be applicable in research projects and diagnostic laboratories.

507 Medical Mycology. LH-2; Lab H-4; SH-4. I. A comprehensive study of fungi pathogenic to man with an emphasis on their properties, pathogenesis, and laboratory diagnosis.

508 Bacterial Physiology and Metabolism Laboratory. LH-3; Lab H-18; SH-4. S. (Six weeks.) PR: MIC 504 or BIC 503. Laboratory practice in the design, conduct, and evaluation of techniques and methods in common use in bacterial physiology.

510 Medical Parasitology. LH-2; Lab H-4; SH-4. II. An introduction to the animal parasites of man with emphasis on both the biological and the medical aspects of the host-parasite association.

515 Pathogenic Bacteriology. LH-2; Lab H-4; SH-4. I. A survey of the bacteria that cause infections in man with an emphasis on their properties, pathogenesis, and laboratory diagnosis.

517/PMC 517 Biology of Cancer. LH-3; SH-3. I. A presentation of the basic aspects of neoplasia with specific blocks devoted to pathology, biochemistry, carcinogenesis, anticancer drugs, and immunology. This is an interdisciplinary course offered primarily by the Departments of Pharmacology, Microbiology, Biochemistry, and Pathology.

523 Infections and Immunity (Dentistry). LH-1. I. LH-2; Lab H-4; SH-5.5. II. A lecture and laboratory study of the disease producing microorganisms of man with special emphasis on the roles of microorganisms in oral diseases and related topics that are of importance in dentistry.

590 Microbiology Seminar. LH-1; SH-1. I, II. Presentation and discussion of research reports and topics of current interest to the departmental seminar or special group seminar.

604 Cell Physiology and Metabolism. LH-3 or 5; SH-3 or 5. II. PR: MIC 504. An advanced course on the physiology and metabolism of procaryotic and eucaryotic cells with some emphasis on the regulation of cell functions. Lectures and class discussions will focus on current scientific literature including review articles and original research papers.

650 Special Topics in Microbiology. SH-1-4. I or II. Lectures, tutorial studies, and/or library assignments in selected areas of advanced study not available in other courses or as part of the research training.

685 Advanced Immunobiology. LH-1 to 3. SH-1 to 3. Lectures, seminars, and conferences on basic and clinical immunobiology. Emphasis on correlation between clinical syndromes and immunologic pathophysiology, current immunological research, interpreting basic and clinical immunological data, and formulating hypotheses and solving problems of immunological interest. Open primarily to resident housestaff or students with immunology background such as MIC 506.

690 Research in Microbiology. SH-1-15. I and II. Research leading to the M.S. or Ph.D. degree and elective research projects for other students.

Department of Pharmacology (PMC)

Professors: Harris (Chairman); Blanke (Pathology); Borzelleca; Dewey; Fallon (Medicine); King (Psychiatry); May; McKennis; Narasimhachari (Psychiatry); Rosecrans; Rubin; Wasserman (Medicine); Watts; Woods

Adjunct Professor: Freund (Medicine)

Emeritus Professors: Ambrose; Larson

Associate Professors: Aceto; Balster; Bowe; Egle; Freer; Guzelian (Medicine); Munson

Adjunct Associate Professors: Fagan; Friedman; Scala; Tardiff

Assistant Professors: Carchman; Chau; Day; Diasio (Medicine); Ellis; Freedlender (Medicine); Lamb (Medicine); Laychock; Martin; Patrick; Skalsky; White (Medicine)

Adjunct Assistant Professors: Etkin; Franko; Funderburk; Mathur; Tucker; Uwaydah

300 Drugs and Their Actions. LH-3; SH-3. I. This is a survey course in pharmacology which includes all the major classes of drug action. Each class is discussed in relation to mechanism of drug action and therapeutic application. Open to all junior and senior undergraduate students at VCU.

391 Health Sciences I. LH-4; SH-4. I. PR: MIC 365. Primarily for nursing students. Integrates and correlates pathophysiology, pharmacology and therapeutics, and pathogenetics, in the disease state. Areas of discussion include water and electrolyte imbalance, acid-base imbalance, fever, pain, edema formation, shock, and blood alterations.

392 Health Sciences II. LH-3; SH-3. II. PR: PMC 391. An integration of pathophysiology, pharmacology, therapeutics, and pathogenetics, more specific pathologies such as autoimmune disease; infection; allergy, neoplasia; cardiovascular, hematopoietic, musculoskeletal, nervous system, pediatric, geriatric, and pathophysiology; and metabolic and nutritional disease.

403 Principles of Pharmacology (Pharmacy). LH-3; Lab H-2; SH-4. I. The basic principles of pharmacology that apply to drugs in general and a consideration in depth of the absorption, distribution, biotransformation, excretion, and mechanisms of action of these agents. Toxicology, drugs acting on the autonomic nervous system, and drug evaluation also are discussed.

404 Pharmacological Agents (Pharmacy). LH-4; SH-4. II. Major classes of therapeutic agents, including specific drugs, discussed in detail. Includes chemotherapeutic, cardiovascular, central nervous system, and endocrine agents. (This is a continuation of PMC 401.)

441 Pharmacology (Dental Hygiene). LH-5; SH-5. I. A didactic course designed to emphasize the principles of pharmacology and pain control and the rationale of drug actions, uses, and adverse effects.

448 Drug Dependence. LH-3; SH-3. II. PR: junior or senior standing or permission of instructor. A broad survey course in problems of drug use and abuse intended primarily for students in the biomedical sciences, social sciences, or education. It will focus on the pharmacology of psychoactive drugs as well as a study of the psychological and sociological factors in drug-taking behavior, rehabilitation methods, and drug abuse prevention. This course may not be taken in lieu of any pharmacology offerings in the professional schools on the MCV Campus. For graduate credit see PMC 548.

509 General Pharmacology and Pain Control. LH-2; Lab H-2; SH-4. I. The basic principles of pharmacology, including mechanisms of absorption, distribution, biotransformation, elimination; dose-response relationships, drug-receptor interactions are presented followed by detailed discussions of the various classes of drugs, with special consideration given to mechanisms of action and untoward effects. An introduction to the fundamentals of toxicology. Drugs used in dentistry to control pain and related symptoms are discussed in detail. These include local anesthetics, general anesthetics, analgesics, tranquilizers, and sedatives.

511 General Pharmacology and Pain Control. LH-3; Lab H-1; SH-3. II. A continuation of PMC 509.

515 Pharmacology for Nurse Anesthetists. LH-3; SH-3. I. The basic principles of pharmacology including mechanisms of absorption, distribution, biotransformation, elimination, dose-response relationships, and drug receptor interactions are presented followed by a detailed discussion of autonomic, cardiovascular, and renal pharmacology as it relates to nurse anesthesia.

516 Pharmacology for Nurse Anesthetists. LH-3; SH-3. II. A detailed presentation of the pharmacology of classes of drugs used by nurse anesthetists including agents with primary therapeutic effect on the brain and endocrine glands. General and regional anesthetics will be emphasized.

517/MIC 517 Biology of Cancer. LH-3; SH-3. I. A presentation of the basic aspects of neoplasia with specific blocks devoted to pathology, biochemistry, carcinogenesis, anticancer drugs, and immunology. This is an interdisciplinary course offered primarily by the Departments of Pharmacology, Microbiology, Biochemistry, and Pathology.

520 Introduction to Pharmacological Research. SH-1-10. I, II, S. PR: permission of instructor. Exposure to pharmacological research from many different aspects.

535 Principles of Toxicology. LH-2; Lab H-2; SH-3. I. The basic principles of the various aspects of toxicology

are presented. Correlations of functional, morphological, carcinogenic, teratogenic, and mutagenic responses with biochemical and toxicological lesions are attempted. Toxicological test procedures will be performed. Environmental and industrial toxicology, food and agricultural chemicals, pertinent legislation, and principles of forensic toxicology will also be covered.

536 General Pharmacology. LH-4.5; SH-4.5. II. PR: PIO 504 or permission of instructor. A comprehensive course in pharmacology for graduate students. The mechanisms of action of major classes of pharmacologically active agents and basic principles of pharmacology are discussed. Topics discussed in the first half of the course include drug absorption, distribution, and metabolism; receptor theory; chemotherapy and endocrine pharmacology.

537 General Pharmacology. LH-4.5, SH-4.5. I. (Continuation of PMC 536.) Topics covered in the second semester include: autonomic, cardiovascular, and central nervous system pharmacology.

542 Forensic Toxicology. LH-3; SH-4. II. (Alt. yrs. '79-'80.) Lecture and laboratory exercises in which common poisons and groups of poisons are discussed as to detection, diagnosis, and treatment of poisoning. Laboratory work includes basic principles of analytical toxicology.

548 Drug Dependence. LH-3; SH-3. II. PR: graduate or post-baccalaureate standing. See PMC 448 for course description. This course may not be taken in lieu of any pharmacology offerings in the professional schools on the MCV Campus.

590 Pharmacology Seminar. LH-1; SH-1. I, II. Members of the departmental staff, students, and visiting lecturers participate in discussions on topics of current and historical interest.

625 Biochemical Pharmacology. LH-3; SH-3. I. (Alt. yrs. '79-'80.) PR: BIC 503. Selected topics dealing with the activation and inactivation of drugs and the effects of drugs on enzyme systems. Lectures and assigned reading.

632 Neurochemical Pharmacology. LH-3; SH-3. I. (Alt. yrs. '80-'81.) The biochemical and theoretical aspects of the effects of drugs on the central nervous system will be discussed.

633 Behavioral Pharmacology. LH-3; SH-3. II. (Alt. yrs. '80-'81.) Emphasis will be placed on techniques used in behavioral pharmacology and on the effects of drugs on behavior.

634 Special Topics. SH 1-4. I, II. PR: permission of instructor. Special topics in pharmacology or toxicology covered in less detail in other courses will be studied in depth in this course.

637 Cardiovascular-Autonomic Pharmacology. LH-3; SH-3. II. (Alt. yrs. '79-'80.) Specialized advanced course in the pharmacology of drugs which affect these systems.

638 Advanced Toxicology. LH-3; SH-3. II. (Alt. yrs. '80-'81.) PR: PMC 535 and BIC 503-504. Biochemical responses to many environmental chemicals which are

active at the transcriptional or replicative level are presented. Detailed biochemistry and selective toxicity of anti-cancer drugs are discussed on the macromolecular level. The involvement of microsomal enzyme pathways in long-term toxic responses is related to the mode of action of chemical mutagens and carcinogens.

639 Drug Development. LH-1; Lab H-4; SH-3. I. (Alt. yrs. '80-'81.) PR: PMC 402 and 501 or their equivalents. The principles of drug screening, advanced testing, and procedures necessary prior to the clinical evaluation of new products are described. An emphasis is placed on physiological type procedures used in pharmacology.

641 Pharmacology Review (Dentistry). LH-1; SH-1. I. A review course in pharmacology for senior dental students.

642 Patients, Drugs, Diseases, and Dentists. LH-1; SH-1. II. Discussion of patients, their diseases, drugs used to treat these diseases, and how they relate to the practice of dentistry.

690 Research in Pharmacology. SH-1-15. I, II. Intended for advanced graduate students in the Department of Pharmacology.

Department of Physiology (PIO)

Professors: Briggs (Chairman); Biber; Bogdanove; Fabiato; Mayer; Mikulecky; Price

Associate Professors: Boadle-Biber; Clamann; DeSimone; Ford; Hess; Pittman; Ridgway; Stein; Szumski; Witorsch

Assistant Professors: Corley; Driska; Hardie; Poland;

Instructors: Bitar (Medicine); Feher; Nolin; Walker

Adjunct Instructor: Street

361 Introduction to Human Physiology. LH-3; SH-3. PR: biology, general chemistry, and human anatomy. An introductory course to human physiology based on an analysis of organ systems.

382 Mammalian Physiology. LH-5.0; SH-5.0. II. A comprehensive study of the function of mammalian organ systems. (Lectures taken with PIO 502.)

501 Advanced Mammalian Physiology LH-5; SH-5. I. PR: biology, chemistry, and physics. A comprehensive study of the function of mammalian organ systems.

502 Mammalian Physiology. LH-5; Lab H-3; SH-6.5. II. PR: same as for PIO 501. A comprehensive study of the function of mammalian organ systems, designed primarily for dental and pharmacy students.

504 Cell Physiology. LH-4; SH-4. II. A description of the functional properties of cells in terms of physics and chemistry. Topics discussed include cell structure and cytochemistry, bioenergetics, secretion, and transport of material across membranes, excitation, and contractility.

530 Special Topics in Physiology. SH-1-4. I, II. PR: a 500-level physiology course or equivalent; permission of instructor. This course is designed to provide study of

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specific topics in physiology. The topics offered include cell physiology, neurophysiology, cardiopulmonary physiology, renalgastrintestinal physiology, and endocrinology.

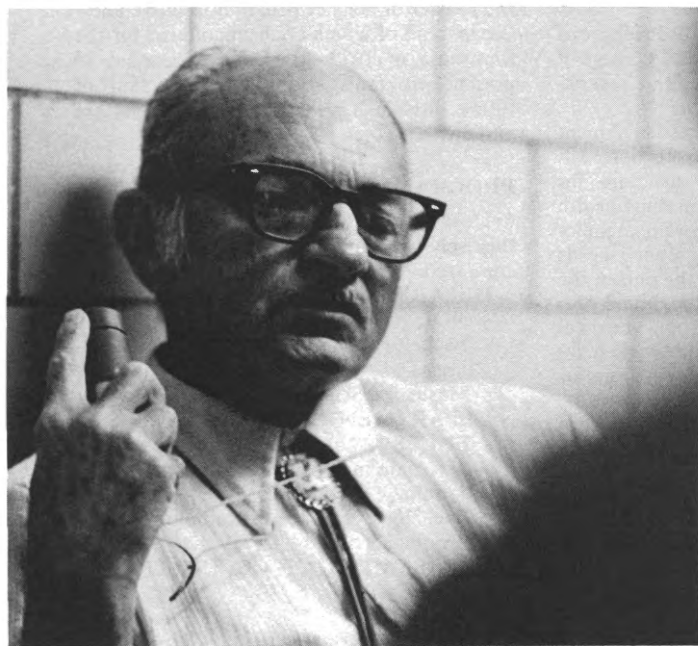
590 Physiology Seminar. LH-2; SH-2. I, II. Reports on current physiological research and problems presented by graduate students, staff, and visiting lecturers.

604 Membrane Transport. LH-2; SH-2; I. Advanced description of membrane transport processes.

606 Mathematical Physiology. LH-3; Lab H-3; SH-3. I and II. Prerequisite: permission of instructor. An introduction to the principles of control theory, dynamic

systems theory, and network thermodynamics with applications of the student's choice. Possible applications include: Reaction-diffusion systems (active transport, facilitation, carriers, etc.), compartmental analysis, transport in epithelia, composite membrane systems, eye movement control, endocrine control, feedback, volume and osmotic regulation, acid-base balance, open loop systems, biological rhythms and pattern formation, biochemical and genetic control, posture reflexes, and cardiovascular models. Laboratory sessions will use computer simulation and other techniques.

690 Research in Physiology. SH-1-15. I, II, S. Research in physiology.



PART VII—School of Allied Health Professions

Thomas C. Barker, B.S., M.A., Ph.D.

Dean

Benjamin T. Cullen, Jr., B.S., M.A., Ed.D.

Associate Dean

E. Davis Martin, Jr., B.A., M.S., Ed.D.

Director of Continuing Education

Roland L. Mason, Assistant

Dean for Veterans Administration Hospital Affairs

Jennie D. Seaton, B.A., M.S., Ed.D.

Director, Center for Allied Health Education

The School of Allied Health Professions was established within the Medical College of Virginia of Virginia Commonwealth University on January 1, 1969.

A fundamental reason for the establishment of the School of Allied Health Professions was to provide an administrative structure for existing educational programs in allied health disciplines and to direct the development of new programs in response to growing needs for allied health manpower. At the outset, the school incorporated existing educational programs for hospital administration, medical technology, physical therapy, radiologic technology, and X-ray technicians. A program for nurse anesthesia was inaugurated as a separate department in 1969; an existing educational program in occupational therapy located on the Academic Campus was transferred administratively to the School of Allied Health Professions in 1970; and, also in 1970, a teaching program in patient counseling formerly based within MCV Hospitals was integrated with the school. A Bachelor of Sci-

ence degree with a major in health-care management, was introduced in 1973 as a cooperative venture with the School of Business. The latest offerings are Bachelor of Science degree program in medical record administration which began in the fall of 1978, a Bachelor of Science program in radiologic technology, and the Master of Science program in nurse anesthesia, both of which are being offered for the first time in 1979-80. The enlargement of present programs and the development of future ones in health-related professions are anticipated.

PROGRAMS

Departments and programs currently in this school and the degrees or certificates conferred on their graduates are:

DEPARTMENT OF MEDICAL TECHNOLOGY

Bachelor of Science in Medical Technology

Master of Science

DEPARTMENT OF RADIATION SCIENCES

Associate in Science in Radiologic Technology

Bachelor of Science in Radiologic Technology

DEPARTMENT OF OCCUPATIONAL THERAPY

Bachelor of Science in Occupational Therapy

Master of Science in Occupational Therapy

PROGRAM OF PATIENT COUNSELING

Postgraduate Certificate in Patient Counseling

DEPARTMENT OF PHYSICAL THERAPY

Bachelor of Science in Physical Therapy
Master of Science

DEPARTMENT OF HEALTH ADMINISTRATION

Master of Health Administration
Bachelor of Science in Health Care Management

DEPARTMENT OF NURSE ANESTHESIA

Master of Science in Nurse Anesthesia

PROGRAM OF MEDICAL RECORD ADMINISTRATION

Bachelor of Science in Medical Record Administration

PHILOSOPHY

The faculty of the school is committed to offer, through the establishment and maintenance of rigorous standards of excellence, undergraduate and graduate education that will prepare students for professional careers in the several allied health disciplines. Development of professional attitudes, emotional maturity, and ethical behavior in students are vital components of the educational process. It is essential that students gain a deep respect for the dignity of man and the inherent rights of patients and others who receive services. The programs are designed to include not only the development of skills to assure excellence in quality of health care, but also such factual knowledge and experiences that will provide the bases for continuing intellectual and professional growth.

Community services of the school and faculty include continuing education, consultative resources, and participation in all pertinent areas of health care. An integral part of these efforts is to stimulate and sponsor research activities in the allied health disciplines represented within the school and to encourage interdisciplinary research.

FACILITIES

Departments and programs in the School of Allied Health Professions are presently housed in Randolph-Minor Annex, the MCV Hospitals-South and West, the Newton House, the Nursing Education Building, and the Tompkins-McCaw Library, and the McGuire Veterans Administration Medical Center.

ACCREDITATION

Virginia Commonwealth University and all its component schools are accredited by the Southern Association of Colleges and Schools, the general accrediting agency for colleges in the region. The School of Allied Health Professions is an institutional member of the American Society of Allied Health Professions, and the Virginia Association of Allied Health Professions. All its programs are approved or accredited by the appropriate national professional or educational organizations.

COURSES

Nearly all course offerings in the school are provided by departments and programs; however, selected courses considered applicable to many students in these programs have been assigned to the School of Allied Health Professions.

AHP 301 Interpersonal Dynamics and Patient Sensitivity. LH-3; SH-3. II. A series of seminars covering a variety of patient feelings, reactions, and personality characteristics.

AHP 330 Special Topics. SH-1-4. I, II, S. PR: permission of instructor. Interdisciplinary study through lectures, tutorial study, or independent research of selected topics not provided in other courses. Offered on undergraduate level.

AHP 401 Instructional Strategies. LH-3; SH-3. I. This course is designed to introduce the student to learning theory, instructional design, evaluation, and methodology. Emphasis will be placed on the study of applying principles and techniques of teaching in all areas of allied health education.

AHP 530 Special Topics. SH-1-4. I, II, S. PR: permission of instructor. Interdisciplinary study through lectures, tutorial study, or independent research of selected topics not provided in other courses.

AHP 573 Teaching in Health Professional Schools. Section-01, LH-3; SH-3. Section-02 (Dental), LH-3; SH-2. I. Study of the relationships between allied health

education and higher education in general, current essentials and proposed standards in education for the health professions, and theoretical approaches to the implementation of these essentials in both academic and clinical learning. Emphasis will be placed on modes of adapting to future needs of the professions and the role of graduate and continuing education in the professions.

AHP 574 Allied Health Education—Practicum. LH-1; Lab H-4; SH-1-6. I, II, and S. PR: AHP 573. Preparation, presentation, and evaluation of selected educational experiences in the appropriate undergraduate program.

AHP 581 Administration in the Allied Health Professions. LH-3; SH-3. I. Study of the health delivery systems, administrative processes and techniques, budgeting, and program development.

AHP 582 Supervision in the Allied Health Professions. LH-3; SH-3. II. Study of the supervisory process and staff development, training in communication and interpersonal skills, and public relations within the health facility.

AHP 583 Supervisory and Administrative Practicum in Allied Health Clinics. CH-60; SH-1-9. S. Section 01 MT, Section 02 PT. PR: permission of instructor. The course is designed for the student who will be assuming supervisory and administrative roles. Areas to be covered include clinical personnel management, budgeting and ordering of materials and equipment, consultation with physicians, developing and troubleshooting clinical methods, designing job descriptions, and implementation of quality control programs.

Courses offered by the School of Education on the Academic Campus are generally oriented to graduate students interested in teaching, administration, or supervision.

STUDENT PERFORMANCE AND BEHAVIOR

The goals and objectives of the School of Allied Health Professions and its component departments and programs relate to the education of persons preparing for professional careers in the allied health disciplines. An integral requisite of each student and practitioner is an undeviating acceptance of a professional attitude and pride that will motivate him to adhere to a code of professional ethics and to develop fully his competencies for practice.

Thus, the suitability of student performance and behavior relating to these professions and to the consumers of health care is a paramount concern of the administration and faculty of this school. Standards of conduct are presented in the general information section of this bulletin and relate to the students in the School of Allied Health Professions. To assure

a quality of educational and clinical preparation for its graduates, the following statement is also promulgated:

"If, in the judgment of the Faculty/Administration of the School of Allied Health Professions, a student is not considered suitable for emotional, professional or related reasons, the student's academic status may be appropriately altered."

If any questions arise regarding standards of performance or behavior, it is the responsibility of students to apprise themselves of acceptable character and conduct requirements prior to matriculation in the designated department or program.

ATTENDANCE REGULATIONS

The faculty considers attendance at lectures, laboratories, and other functions a requisite to the successful acquisition of the knowledge and skills required of the professional. Hence, the faculty cannot condone absence without good reason from any regularly scheduled educational experience. At the start of each course, the instructor will relate to the class the policy of his department concerning the attendance regulations for that semester. The nature of make-up work in the event of absence will be the prerogative of the instructor.

GRADUATE PROGRAMS

Graduate degree offerings in the School of Allied Health Professions are designated as basic professional or advanced level programs. Accreditation requirements for the individual programs preclude the establishment of general school admission prerequisites, registration dates, and course and degree requirements.

It is the intent that these regulations and procedures for each program insure the selection of applicants whose motivation, ability, character, and health status qualify them to successfully pursue graduate study. Specific information may be found in the departmental presentations in this section or are available from the departmental graduate coordinator.

Department of Medical Technology

Medical technologists have been trained at MCV since 1932. However, the Department

(formerly school) of Medical Technology was not formally established until 1952. The school offered a certificate and/or degree program, meeting the requirements of the American Medical Association as implemented through the Board of Schools of the American Society of Clinical Pathologists (ASCP). In 1961-62 the certificate program was discontinued, and all students accepted must have previously completed 90 semester hours, which included medical technology prerequisites. Upon completion of the course, the students were awarded a Bachelor of Science in medical technology degree.

In 1952 the program was established as six months of didactic experience with lectures and laboratory sessions held in the department, followed by a six-month rotation through the clinical laboratories. From 1952-1967, two classes were admitted each year, but the practice was discontinued with the graduation of the class of 1967. From 1968-74 only one class was admitted each year.

Beginning with the 1974 fall term, students must have completed 60 semester hours including medical technology prerequisites. In this program, the student completes two semesters of didactic education with lectures and laboratory sessions held in the department, followed by a six week summer session in a hospital laboratory somewhere in Virginia. During the senior year the student has five six-week rotations in the clinical laboratories followed by advanced courses in each discipline of medical science and one course in basic education and supervision. Upon completion of the course, the student is awarded a Bachelor of Science in medical technology degree.

In 1967, a graduate program for medical technologists was begun. This program leads to a Master of Science degree, with majors in one of the four main disciplines of medical technology; namely, clinical chemistry, hematology, immunohematology, and clinical microbiology. Graduate studies in medical technology are offered for those who would become teachers and supervisors.

PHILOSOPHY

The medical technologist is in a unique position. The area of interest while predomi-

nantly intellectual, also requires specialized manual and technological skills.

The university medical center affords the most favorable environment to acquire this varied knowledge.

The faculty is available to provide expertise in all areas; the large hospital provides a wide spectrum of pathological conditions, and the library is able to fulfill all literature requirements.

Education in close proximity to that of the medical student, intern, and resident, as well as interaction with the other health-related professions gathered into the School of Allied Health Professions, introduces the student to his position as a member of the medical team.

OBJECTIVES

The primary objective of the Department of Medical Technology is to provide the student with superior basic and advanced studies in medical laboratory science.

Most careful attention is given to the development of the professional personality of the medical technologist. A mature, responsible approach to the acquisition of the knowledge of medical laboratory science will establish a pattern for his entire career and provide strong knowledgeable leaders in the clinical laboratory area.

FACILITIES

The department is located on the ground floor of Randolph-Minor Annex at the corner of College and Broad Streets. Thirty students are accepted each year.

The teaching laboratory is well-equipped with the latest equipment used in today's methods of laboratory medicine.

ACCREDITATION

The Department of Medical Technology is accredited by the Council on Medical Education of the American Medical Association in collaboration with the National Accrediting Agency for Clinical Laboratory Sciences. A Bachelor of Science degree in medical technology is granted by Virginia Commonwealth University upon satisfactory completion of the prescribed curriculum. Upon completion of the program, the student is eligible for the national examination given by the Board of Registry of the American Society of Clinical pathologists. This is not an affiliate program.

UNDERGRADUATE PROGRAM

With the rapid advancement of knowledge in the field of laboratory medicine, the need for highly skilled and knowledgeable medical technologists has been recognized as a national problem. With the establishment of two other programs for laboratory workers (clinical laboratory assistants and medical laboratory technicians) to meet the demands for personnel, the graduates of this program become the trouble shooters, problem solvers, and supervisors of all of the employees in the laboratory. Students are required to spend two years in residence.

Applications are accepted upon completion of three semesters of college. Students are admitted in the fall semester and follow the university calendar.

The fall and spring semesters of year one are devoted to lectures and laboratory exercises in: clinical microscopy, hematology, serology, immunology, blood banking, clinical biochemistry, clinical microbiology, and parasitology. The following summer and the fall and spring semesters of the second year, the student technologists learn by precept and performance in a rotating internship in the laboratories of affiliated hospitals.

ADMISSION REQUIREMENTS

To qualify for admission, a candidate must have completed a minimum of 60 semester hours of collegiate training in any college or university approved by a recognized regional accrediting agency. Accredited collegiate training in preparation for the study of medical technology, as for any professional career, should provide the opportunity for broad general education to include English, the social sciences, the arts, and the humanities. On entry to the department, the student must have completed 16 hours of chemistry (eight hours of general, four hours of organic, four hours of quantitative or eight hours of general and eight hours of organic), 16 hours of biology (preferred - eight hours of general, four hours of basic human anatomy, four hours of human physiology; other courses may be accepted), three hours of mathematics, and six hours of English. It is strongly recommended that the preparatory course include physics.

Additional information regarding admission requirements or the curricula may be

obtained by writing to: Director of Admissions, Medical College of Virginia, Virginia Commonwealth University, Box 163, MCV Station, Richmond, VA 23298.

DEPARTMENTAL ACADEMIC REGULATIONS

The minimum passing grade is "D." A higher passing grade may be established for students required to repeat any course.

If a student has a passing grade in a course but fails the final examination a re-examination may be given. The passing grade after re-examination cannot exceed a "D." A final grade of "F" precludes further re-examination. The course must be repeated.

Academic promotion is determined by the student evaluation committee. The student is expected to:

1. Maintain a grade-point average of 2.0 or better.
2. Have a passing grade in all courses.
3. Exhibit the attitudes and skills deemed necessary to function as a professional medical technologist. Students failing to demonstrate sufficient professional responsibility will be subject to dismissal from the program upon recommendation of the faculty and Executive Committee of the department.
4. Pay all fees.

The clinical education requirements must be completed to the satisfaction of the clinical and academic faculty.

HONORS AND AWARDS

A. D. Williams Award. An annual award may be made, on nomination of the faculty, to a student in each class who demonstrates by virtue of high scholastic attainment and professional performance, unusual promise and ability. Character, motivation, intellectual curiosity, and realization of the opportunities for personal development will be considered. The award is made at the end of the junior and the senior year.

Achievement Awards. These awards may be given for each discipline in medical technology. All the achievement awards are provided by laboratory supply firms. The monetary award may vary from year to year.

Kupfer Award. This award was given in 1965 in memory of Dr. Henry G. Kupfer who was medical director of the School of Medical

Technology from 1952 until his death in 1964. It is given to the senior who is considered to be the best all-around technologist. Through the year he must demonstrate an outstanding sense of responsibility in all phases of medical technology, a keen concern for the patients, and the ability to work with others. He must show a desire for personal and professional growth.

The selection of the student to receive the award is made by nominations from the clinical instructors in the various areas of rotations.

CURRICULUM

		Semester
Junior Year		Hours
MET 301	Biochemistry	5
MET 302	Hematology	4
MET 304	Clinical Microscopy/ Parasitology.	3
MET 305	Microbiology	5
MET 306	Immunohematology	3
MET 307	Principles of Medical Technology ..	1
MET 310	Clinical Immunology	2
MET 313/314	Electronics and Instrumentation	7
		30
Summer Session		
MET 437	Clinical Education	2
Senior Year		
MET 407	Interpretive Immunohematology ...	2
MET 408	Interpretive Microbiology	2
MET 409	Interpretive Hematology	2
MET 410	Interpretive Biochemistry	2
MET 411	Principles of Clinical Education and Supervision	3
MET 414	Instrumentation	2
MET 415	Seminar	1
MET 416	Advanced Clinical Microscopy	1
MET 425	Biochemistry Practicum	6
MET 427	Serology/Virology Practicum	2
MET 428	Hematology Practicum	6
MET 430	Microbiology Practicum	6
MET 432	Clinical Microscopy Practicum	4
MET 434	Toxicology Practicum	1
MET 435	Immunohematology Practicum	6
MET 438	Research Paper	1
		49

FACULTY

Professor: Izard (Chairman); Vennart (Medical Advisor)
Associate Professor: Karselis
Assistant Professors: Adams; Odom; Prentice; Sauer; Small; Sommer

COURSES OF INSTRUCTION (MET)

201 Introduction to Medical Technology. LH-1; SH-1. I. Presentation and discussion of the art of medical technol-

ogy including an introduction to each of the specific areas of concentration and a tour of a hospital laboratory. Explanation of the role of the medical technologist and how the MT fits into the laboratory organization. Discussion of various job opportunities for the profession. (Open to students on the Academic Campus who are interested in medical technology as a career.)

301 Biochemistry. LH-4; Lab H-4; SH-5. I. A study of metabolism in normal and diseased processes of the body. Emphasis is placed on the principles and methods used in testing biochemical reactions.

302 Hematology. LH-3; Lab H-4; SH-4. I. A study of the blood and blood forming tissues. Emphasis is placed on hematologic techniques, accurate identification of normal and abnormal cells, and their correlation with normal or pathologic conditions. An introduction to the hemostatic mechanism is also presented.

304 Clinical Microscopy/Parasitology. LH-2; Lab H-4; SH-3. II. A study of the principles and practices of urinalysis, pregnancy test, liver function, kidney function, gastric analysis, and cerebrospinal fluid. A study of the life cycle of clinical infections and techniques used for isolation and identification of common parasites found in man.

305 Diagnostic Microbiology. LH-4; Lab H-4; SH-5. II. Fundamental principles of diagnostic microbiology including serology, bacteriology, mycology, antibiotic susceptibility testing, and quality control; the relationship of microorganisms to infectious diseases including pathogenesis and epidemiology. Emphasis is placed on the techniques, methods, and procedures required to isolate and identify pathogenic microorganisms.

306 Immunohematology. LH-2; Lab H-4; SH-3. II. A study of the theory and principles of blood banking, with an emphasis on the methods and techniques used in the laboratory for cell typing, cross matching, and antibody identification.

307 Principles of Medical Technology. LH-1; SH-1. I. Presentation and discussion of the art of medical technology including medical library resources.

310 Clinical Immunology. LH-2; SH-2. I. Basic principles of immunology and its relationship to various disease processes are introduced. Emphasis is placed on laboratory evaluation of the immune response including both cellular and humoral aspects.

313 Introduction to Medical Electronics and Instrumentation. LH-3; Lab H-2; SH-4. I. A survey of the electronic principles of medical and clinical instrumentation; intended as an undergraduate introductory core course for allied health students in medical technology, physical therapy, etc., to the field of electronic instrumentation. Topics include electronic fundamentals, instrumentation design theory, transducers, troubleshooting, and microprocessor applications. Recitations and laboratory sessions are designed to accommodate specific disciplines in allied health. Open to all allied health students.

314 Clinical Instrumentation. LH-2; Lab H-2; SH-3. II. PR: MET 313 or permission of instructor. Covers the

instrumentation found in clinical laboratories. The course will examine the principles behind the various methods of clinical analysis and the instrumentation employed. Topics will include spectrophotometry, flame methods, fluorometry, electrophoresis, pH, ion selective electrodes, blood gas instruments, chromatography, nuclear instrumentation, particle counters, advances in automation, and microprocessor control techniques.

407 Interpretive Immunohematology. LH-2; SH-2. II. PR: MET 306. Advanced study of the principles of immunohematology, with emphasis on blood group systems and blood components. Includes the application of laboratory data and techniques to solve problems relating to transfusions.

408 Advanced Microbiology. LH-2; SH-2. II. PR: MET 305. Advanced study in diagnostic microbiology including virology, serology, and unusual bacterial and mycological isolates; fundamental principles of host defense and indications of an infectious process. The application of laboratory data and techniques to solve clinical microbiological problems will be included.

409 Interpretive Hematology. LH-2; SH-2. II. PR: MET 302. Advanced study of the principles of hematopoiesis and their pathophysiological correlation to hematological disorders. Interpretation for morphological findings are correlated with case histories. Includes hemostatic problems.

410 Interpretive Biochemistry. LH-2; SH-2. II. PR: MET 301. An advanced study of intermediary metabolism and its relation to pathological disorders. Case histories are used to study clinical interpretation of laboratory data.

411 Principles of Clinical Education and Supervision in the Clinical Laboratory. LH-3; SH-3. II. Introduction to the basic principles of educational theories and practice. Introduction to the basic principles of management and employee relations. Emphasis is placed on the application of these in the clinical laboratory.

416 Advanced Clinical Microscopy. LH-1; SH-1. II. PR: MET 304. Builds upon MET 304 and gives advanced studies in the principles and practice of urinalysis, liver function, kidney function, gastric analysis, cerebrospinal fluids, other body fluids, and parasitology.

425 Biochemistry Practicum. CH-192; SH-6. I-II. PR: MET 301. Individual participation in hospital chemistry laboratories. Students gain practical experience in the use of procedures and instruments by working with the staff. After gaining competence, students are expected to perform and sign out routine laboratory work.

427 Serology/Virology Practicum. LH-64; SH-2. I-II. PR: MET 305. Individual participation in hospital serology/virology laboratory. Students gain practical experience in the performance and use of procedures by working with the clinical staff. After gaining competence, the students are expected to properly perform and sign out routine laboratory work.

428 Hematology Practicum. CH-192; SH-6. I-II. PR: MET 302. Students gain practical experience in the use of

procedures and instruments by working with the staff. After gaining competence, the students are expected to perform and sign out routine laboratory work.

430 Clinical Microbiology Practicum. LH-192; SH-6. I-II. PR: MET 305. Individual participation in hospital bacteriology laboratories. Students gain practical experience in the performance and use of procedures by working with the clinical staff. After gaining competence, the students are expected to properly perform and sign out routine laboratory work.

432 Clinical Microscopy Practicum. CH-128; SH-4. I-II. PR: MET 304. Individual participation in hospital fluid laboratories including day and evening shifts. Students gain practical experience in the use of procedures and instruments by working with the staff. After gaining competence, the students are expected to perform and sign out routine laboratory work.

434 Toxicology Practicum. CH-32; SH-1. I-II. PR: MET 301. Individual participation in hospital toxicology laboratory. Students gain practical experience in the correct approach to solving toxicological problems and the use of procedures and instruments by working with the staff. After gaining competence, the students are expected to perform and sign out routine laboratory work.

435 Immunohematology Practicum. CH-180; SH-6. I-II. PR: MET 306. Individual participation in hospital immunohematology laboratories. Students gain practical experience in the use of procedures and instruments by working with the staff. After gaining competence, the students are expected to perform and sign out routine laboratory work.

437 Clinical Education. CH-240; SH-2. S. Supervised clinical experience in hospitals of less than 400 beds are designed to give the student a broader clinical education. In addition to the application of academically acquired knowledge, this six week affiliation provides an opportunity for the student to correlate each area of study into one composite picture for final laboratory diagnosis. Closer working relationships with other allied health personnel will also be an important aspect of this affiliation.

438 Research Paper. LH-1; SH-1. I-II. PR: MET 307. This course is designed to introduce to the student the fundamentals of scientific writing.

GRADUATE PROGRAM

The Department of Medical Technology offers a program leading to a Master of Science degree in medical technology. It is designed to provide advanced theoretical and practical education to the individual whose aim is to become an educator, supervisor (administrator), or researcher in the field of medical technology. Students may specialize in one of the following clinical disciplines: hematology, microbiology, chemistry, immu-

nohematology, or instrumentation. The core curriculum comprises courses in education, administration, and clinical instrumentation. This is in addition to the numerous basic science courses offered within the department or in other departments of the university. (See also the section on graduate programs in the School of Allied Health Professions on page 122.)

Admission Requirements

In addition to the general requirements for admission to the university, the applicant must:

1. hold a baccalaureate degree;
2. be a registered medical technologist, MT (ASCP);
3. have a minimum of two years' experience in clinical laboratory science. It is recommended that at least one of these two years be in the area in which the student plans to specialize (in extraordinary circumstances and upon approval of a majority of the faculty, this requirement may be waived); and
4. take the Graduate Record Examination (GRE). Any medical technologist who desires to advance his theoretical and practical knowledge may be admitted upon the recommendation of the faculty, as a special or conditional student, and enroll in any of the graduate courses offered within the university. Special or conditional students, however, cannot be considered for candidacy for the Master of Science degree until the full admission requirements are satisfied.

Application materials may be obtained from Dean, School of Allied Health Professions, Medical College of Virginia, Virginia Commonwealth University, Box 233, MCV Station, Richmond, VA 23298.

ACADEMIC REQUIREMENTS

It has been found that 21 to 25 months on a full-time basis are necessary to complete the requirements. There are no full-time residence requirements. However, part-time students must complete all work requirements within five years. An interruption in registration in excess of one semester requires prior approval of the department.

The minimum credit requirement is 34 semester hours: 18 in basic science (3 in instrumentation), 6 in research, 3 in education, and 3 in supervision/management. Included in this is required participation in MET 590 Seminar for a minimum of 4 semesters. Past experience has shown that the average candidate accumulates more hours than this. All courses selected must be approved by the student's advisor.

A research study conducted under the guidance of an advisor, and culminating in a thesis is required of all candidates. The thesis must be presented in both written and oral form to a thesis committee composed of the student's advisor and two other members. The thesis committee will include at least one member from a department other than medical technology.

PROGRAM OPTIONS

The department offers instruction in education, supervision and administration, biomedical research, and instrumentation. The student is expected to gain experience in at least one of these areas by way of specific theoretical and laboratory (practicum) courses.

The basic science requirement may be distributed among approved courses listed in the graduate studies bulletin. It is strongly recommended that students obtain at least one course in computer science and/or biostatistics.

COURSES OF INSTRUCTION (MET)

501 Instrumental Methods of Analysis I. LH-2; Lab H-4; SH-2-4. I. PR: permission of instructor. A study of modern research and clinical laboratory instrumentation and procedures. Principles, theory, and comparison of laboratory instruments will be discussed in detail along with the factors affecting their operation. Two credit hours will be given students upon successful completion of the lecture portion of the course. Laboratory exercises have been designed to demonstrate the practical applications of the instruments studied in the research and clinical laboratory. Two additional credit hours will be given to students who elect and satisfactorily complete this option. Areas to be covered include: spectrophotometry, fluorometry, flame emission photometry, and atomic absorption spectrophotometry.

502 Instrumental Methods of Analysis II. LH-2; Lab H-4; SH-2-4. II. PR: permission of instructor. A study of modern research and clinical laboratory instrumentation and procedures. Principles, theory, and comparison of laboratory instruments will be discussed in detail along with the factors affecting their operation. Two credit

hours will be given students upon successful completion of the lecture portion of the course. Laboratory exercises have been designed to demonstrate the practical applications of the instruments studied in the research and clinical laboratory. Two additional credit hours will be given to students who elect and satisfactorily complete this option. Areas to be covered include: electrophoresis, chromatography, particle counters, radioisotope counters, and

505 Advanced Hematology. LH-4; SH-4. I, II. To enable the student to understand the basis for special procedures used in hematology and their application in differentiating blood dyscrasias.

510 Interpretative Clinical Hematology. LH-2; SH-2. I, II. The aim of this course is to present the principles of hematopoiesis and to study related pathological and pathophysiological correlation of hematological disorders.

580 Supervision and Administration in Medical Technology. LH-3; SH-3. This course is designed for students who will be assuming leadership roles in medical technology. Special emphasis will be placed on the role of the medical technologist in education. Topics to be covered include: curriculum design, laboratory design, including teaching areas; budgeting, interviewing, ordering equipment and supplies, and requirements for accreditation of approved programs for MT, MLT, and CLA.

590 Medical Technology Seminar. LH-1; SH-1. I, II. Presentation and discussion of current research and topics of interest by the departmental faculty, graduate students, and visiting lecturers.

650 Special Topics in Medical Technology. SH-1-4. I, II, S. This course provides for lectures, tutorial studies, and/or library assignments in specialized areas not available in formal courses or research training.

690 Research in Medical Technology. SH-1-15. I, II, S. Research leading to the M.S. degree.

Department of Radiation Sciences

PROGRAM OF RADIOLOGIC TECHNOLOGY

A program in radiologic technology has been offered by MCV/VCU since the 1930's. A one year on-the-job training certificate program was offered until 1961 when it was lengthened to 24 months. In 1966, a curriculum was approved by the Council on Technologists Affairs of the American College of Radiology, American Medical Association, and the Southern Association of Colleges and Schools that offered the graduate an Associate in Science degree in radiologic technology. Students were accepted into the associate de-

gree program beginning with the fall semester, 1966. The 24 month certificate program was discontinued with the last class graduating in 1973.

PHILOSOPHY

The faculty of the Program of Radiologic Technology is concerned with improving the professional image of the radiologic technologist through high quality education and concern for the needs of the patient. We believe that in order to raise the professional image, we must provide an environment which promotes stimulating intellectual discovery, both academically and clinically. We further believe that it is necessary to foster in the student an attitude that learning is a lifelong process.

We believe that it is essential that the student realize that he is responsible for the patient and that he should attempt to understand both the physical and mental problems of the patient and be inquisitive about and concerned with the patient's prescribed treatment.

We believe that the faculty must continue to grow professionally while maintaining a humanistic attitude which permits individual freedom of expression for both students and faculty, an openness toward change, and mutual respect for all.

OBJECTIVES

1. To provide an educational atmosphere that will engender in the student intellectual curiosity, a desire for lifelong learning, and excellence in clinical performance.
2. To strive to maintain an educational environment that keeps abreast of change and new methodology within the fields of radiology and radiologic technology.
3. To provide an atmosphere in which the student develops appreciation for the fact that he is a professional and as a professional has a responsibility to contribute to the growth of the profession through research, continued education, and active participation in the professional societies.
4. To produce a professional technologist with the knowledge and skills necessary to function as a competent registered diagnostic radiologic technologist.

FACILITIES

The program of radiologic technology is located on the 18th floor of the MCV West Hospital and includes classrooms, a student lounge, library, and offices. A radiographic laboratory is located at 1008 East Clay Street. Equipment in the laboratory includes an energizable radiographic/fluoroscopic X-ray unit, a cabinet X-ray teaching unit, and manual and automatic film processing capabilities. A small well-equipped classroom is adjacent to the laboratory.

ACCREDITATION

The Program in Radiologic Technology is accredited by the Joint Review Committee on Education in Radiologic Technology. This committee has replaced the Council on Technologists' Affairs and is the official accrediting body of the American College of Radiology, American Medical Association, and the American Society of Radiologic Technologists.

PROGRAMS

An Associate in Science degree in radiologic technology is offered by the Department of Radiation Sciences. This program qualifies the graduate to take the national registry examination for certification in radiography.

ADMISSION REQUIREMENTS

Candidates for admission to the program must have completed high school or have passed a GED examination. Transcripts of high school work and Scholastic Aptitude Test (SAT) scores must be submitted with the application. Candidates should also take the entrance examination for schools of health related technologies. Candidates are encouraged to obtain some hospital experience, either as a volunteer or as an employee. Such experience should preferably be in the Department of Radiology, but may be elsewhere in the hospital.

Applications should be submitted after September 1. Correspondence should be sent to: Director of Admissions, Medical College of Virginia, Virginia Commonwealth University, MCV Station, Box 163, Richmond, VA 23298.

ACADEMIC REGULATIONS

Requirements for academic promotion:

1. Maintain a grade-point average of 2.0.
2. Have a passing grade in all courses. A grade of "C" or better is required for those courses indicated with an asterisk.
3. Demonstrate the attitudes and skills deemed necessary to function as a radiologic technologist.
4. Pay all fees.

HONORS AND AWARDS

E. R. Squibb Award. An annual award may be given to a senior student based on a continuous demonstration of professionalism, competency, and academic achievement. The selection of the student to receive the award is made by nomination from the faculty, students, and staff technologists.

Mallinckrodt Award. An annual award may be given to a junior student based on clinical performance, professionalism, attitude, and academic achievement. The selection of the student to receive the award is made by nomination from the faculty, students, and staff technologists.

A. D. Williams Award. An annual award may be given to the student who has achieved the highest average in each class.

Special Clinical Award. An award for clinical excellence may be given to a graduating student who, in the opinion of the faculty, has consistently demonstrated outstanding clinical ability and a high standard of professionalism.

CURRICULUM

First Year		Semester Hours	
		Fall	Spring
ENG 101	Composition and Rhetoric.....	3	
ENG 102	Composition and Rhetoric.....		3
RTE 101*	Radiographic Procedures I.....	4	
RTE 102*	Patient Care and Ethics...		3
RTE 103*	Radiography I.....	3	
RTE 104*	Radiography II.....		3
BIO 103	Anatomy and Physiology	3	
BIO 104	Anatomy and Physiology		3
RTE 105	Medical Terminology.....	2	
RTE 106*	Clinical Education (240)..		3
		15	15

130 School of Allied Health Professions

Summer Session

RTE 107*	Clinical Education (360)...	5	
PSY 101	General Psychology.....	3	
MAT 101	College Algebra	<u>3</u>	
		11	

Semester Hours

		Fall	Spring
Second Year			
RTE 200	Radiology		
	Administration		2
RTE 201*	Radiographic Procedures		
	II	3	
PHY 201	General Physics	4	
PHY 202	General Physics		4
RTE 203	Medical and Surgical		
	Diseases I	2	
RTE 204	Medical and Surgical		
	Diseases II		2
RTE 205*	Clinical Education (360)...	5	
RTE 206*	Clinical Education (360)...		5
RTE 207*	Radiation Safety and		
	Biology	3	
RTE 208*	Radiographic Physics	<u>17</u>	<u>3</u>
		17	16

Summer Session

RTE 210*	Radiographic Procedures	
	III	2
RTE 212*	Radiography III	2
RTE 214	Trends in Radiography....	2
RTE 216*	Clinical Education (400)...	<u>5</u>
		11

BACHELOR OF SCIENCE PROGRAM

The Department of Radiation Sciences offers a program leading to the Bachelor of Science degree, with an area of concentration in either education or administration. The program is designed to provide advanced theoretical and practical education for the individual who wants to become an educator in radiologic technology or an administrator in a radiology department. The core curriculum consists of professional courses offered within the department. Additional course requirements in the area of concentration are offered in other departments of the university.

PHILOSOPHY

The faculty of the Department of Radiation Sciences is concerned with keeping pace with the rapidly growing and widely diversified field of radiologic technology. There have been increased demands for people qualified to fill responsible positions in this area of health care. In 1982 a baccalaureate degree be will required for those desiring a teaching position in the field. The administration of a

radiological facility has become so complex that even small institutions are in need of educated individuals who are prepared to assume this responsibility. The Department of Radiation Sciences recognizes and attempts to meet that need by providing both an educational and an administrative track leading to the Bachelor of Science degree in radiologic technology. Every effort is made to provide the student with a varied environment in keeping with the effective instruction that a large university offers.

OBJECTIVES

1. To provide the student with the opportunity for career development as a radiologic technology educator or administrator;
2. To provide competent individuals to fill responsible positions in the areas of education and administration in radiologic technology;
3. To provide an educational environment which will permit the student to develop to his fullest capacity as a radiologic technologist educator or an administrator in a radiology department.
4. To promote learning as a life-long endeavor and to encourage continued professional growth as a means to achieve professional maturity.

ADMISSION REQUIREMENTS

In addition to the general requirements for admission to the university the applicant must:

1. Be a certified radiologic technologist or eligible for certification by the ARRT.
2. a. Have an Associate Degree in radiologic technology with a GPA of at least 2.5, or
b. Have completed two years of undergraduate education (60 semester hours or 90 quarter hours) in an accredited college or university with a minimum grade point average of 2.5 in the following:

College Algebra 3 SH
English Composition and Literature 6 SH
Anatomy and Physiology 5 SH
General Psychology 3 SH
General Physics 8 SH

Electives 35 SH (To include radiologic technology courses)

3. Receive a recommendation from the educational director of the radiologic technology program attended.

Any radiologic technologist who wishes to advance his theoretical and practical knowledge may be admitted as a special student, and may enroll in any of the courses offered within the university. Special students, however, cannot be considered for the Bachelor of Science degree until full admission requirements are satisfied.

Application may be obtained from the Director of Admissions, Medical College of Virginia, Box 632, MCV Station, Richmond, VA 23298, (804) 786-9812.

ACADEMIC REGULATIONS

Requirements for academic promotion:

1. Maintain a grade-point average of 2.0.
2. Have a passing grade in all courses.
3. Exhibit the attitude and responsibility deemed necessary to function as a professional radiologic technologist in the selected area of concentration.
4. Pay all fees.

HONORS and AWARDS

A. D. Williams Award. An annual award may be presented to the student who has achieved the highest academic average in each class in the undergraduate program.

CURRICULUM¹

EDUCATION TRACK

Junior Year, Fall Semester		Semester Hours
EDU 300	Foundations of Education	3
RTE 301	Pathophysiology for Radiographers I	1
HCM 302	Health Care Services I	3
PSY 305	Educational Psychology	3
RTE 309	Advanced Radiographic Physics....	3
HCM 323	Psychological Aspects of Illness and Disability	3
		16
Junior Year, Spring Semester		
RTE 302	Pathophysiology for Radiographers II	1
HCM 306	Legal and Regulatory Controls in the Health Industry	3

RTE 310	Physics and Imaging of Diagnostic Radiology	3
PSY 321	Social Psychology	3
AHP 330	Special Topics	3
Elective		3
		16
Senior Year, Fall Semester		
AHP 401	Instructional Methodology	3
EDU 407	Educational Media: Utilization	3
SPE 408	Speech for Teachers	3
RTE 411	Theory and Practice of Quality Control	3
Elective		3
		15
Senior Year, Spring Semester		
RTE 404	Educational Practicum	4
RTE 412	Radiographic Health and Ecology .	3
EDU 432	Group and Interpersonal Relations	3
Electives		6
		16
TOTAL		63

ADMINISTRATIVE TRACK¹

Junior Year, Fall Semester		Semester Hours
RTE 301	Pathophysiology for Radiographers I	1
HCM 302	Health Care Services I	3
RTE 309	Advanced Radiographic Physics....	3
BUS 321	Organization and Management I....	3
HCM 323	Psychological Aspects of Illness and Disability	3
Elective		3
		16
Junior Year, Spring Semester		
BUS 203	Introduction to Accounting	3
ECO 203	Introduction to Economics	3
RTE 302	Pathophysiology for Radiographers II	1
HCM 306	Legal and Regulatory Controls in the Health Industry	3
RTE 310	Physics and Imaging of Diagnostic Radiology	3
BUS 331	Personnel Management	3
		16
Senior Year, Fall Semester		
HCM 404	Fiscal Management in Health Care Facilities	3
RTE 405	Applied Radiology Management ...	3
HCM 406	Personnel Management in Health Care Facilities	3
RTE 411	Theory and Practice of Quality Control	3
Elective		3
		15
Senior Year, Spring Semester		
RTE 406	Management Practicum	4
RTE 412	Radiographic Health and Ecology .	3
HCM 502	Management in Health Care Facilities	3
Electives		6
		16
TOTAL		63

¹ For descriptions of courses in Education (EDU), Business (BUS), Economics (ECO), Psychology (PSY), and Speech (SPE), see the Academic Campus *Undergraduate Bulletin*.

FACULTY

Professor: Beachley (Medical Advisor)
 Assistant Professors: Gerhold (Chairman); Bell;
 Greathouse; Kirschner; Wasseen
 Instructors: Lenke; Martin

COURSES OF INSTRUCTION (RTE)¹

101 Radiographic Procedures I. LH-3; Lab H-2; SH-4. I. A multimedia course combining radiographic anatomy and positioning designed to give the student an opportunity to demonstrate knowledge during a practical examination in the radiographic laboratory. Students will be able to identify various anatomical parts on drawings, human skeleton, and on radiographs. They will also be able to critique their radiographs for accurate demonstration of the anatomy as well as the proper exposure factors used.

102 Patient Care and Ethics. LH-3; SH-3. II. This course is designed to acquaint students with various aspects of patient care, specifically as it relates to radiographic and other procedures which they will encounter during their professional careers. It is also designed to prepare students to act quickly and effectively in the case of a medical emergency. Additionally, students will gain an understanding of their status as a health care professionals. Students will also possess the knowledge of the rules and guidelines that govern them as student health care workers and the rationale for those regulations.

103 Radiography I. LH-2; Lab H-2; SH-3. I. An introductory lecture and laboratory course covering the production of X-ray, radiographic equipment, filters, beam attenuation and restrictors, grids, intensifiers, and the prime factors of radiography.

104 Radiography II. LH-2; Lab H-2; SH-3. II. A detailed lecture and laboratory course covering X-ray tubes, X-ray equipment, grids, intensifying screens, radiographic quality, geometry of the radiographic image, fluoroscopy, image intensifiers, and the various mathematical formulas employed in radiography.

105 Medical Terminology. LH-2; SH-2. I. An introduction to words and phrases used in radiology and radiologic technology; anatomic descriptive terms and their common abbreviations; prefixes, suffixes, and their proper usage.

106 Clinical Education I. CH-240; SH-3. II. PR: RTE 101, 103, and 105. Clinical experience supervised by faculty and staff radiologic technologist. Students gain practical experience in radiographic techniques and positioning for various procedures in routine, emergency, portable, and operating room radiography.

107 Clinical Education II. CH-360; SH-5. S. Pr: RTE 106. Supervised clinical experience in general diagnostic radiography by faculty and staff radiologic technologists. Students gain practical experience in radiographic technique and positioning for various procedures in routine, emergency, portable, and operating room radiography.

200 Radiology Administration. LH-2; SH-2. II. Designed to cover the organization, operation, and function

of a radiology department. Employee relationships as well as all aspects of managing a department are discussed. Managerial quality, employee morale, patient service, inter- and intra-departmental communication, long range plans, and budgeting are discussed.

201 Radiographic Procedures II. LH-2; LAB H-2; SH-3. I Pr: RTE 101 and 102. Continuation of RTE 101 with emphasis on the anatomy and the procedures of gastrointestinal, urinary, neuro, and vascular radiography. Includes the types, preparation, administration, indications, and contraindications of the contrast media utilized in the above procedures. The various specialized radiographic equipment necessary for these procedures is also included.

203 Medical and Surgical Diseases I. LH-2; SH-2. I. This course is designed to assist the student in understanding and helping each individual patient with emphasis on the medical and/or surgical treatment of these patients.

204 Medical and Surgical Diseases II. LH-2; SH-2. II. A continuation of RTE 203 emphasizing the physiology and pathology which are recorded by the roentgen image, as well as factors which influence the ultimate diagnosis, therapy, and prognostic impression. The necessity for excellent film quality, as well as standard and special techniques in positioning, will be related to the diagnostic information to be obtained by the study.

205, 206, and 216 Clinical Education III, IV, and V. CH-1120; SH-15. I, II, and S. Pr: RTE 107. Clinical experience supervised by faculty and staff technologists. Students gain expertise in all aspects of diagnostic radiography. Course may include elective rotations in ultrasonics, nuclear medicine, radiation therapy, or other specialized radiographic areas.

207 Radiation Safety and Biology. LH-3; SH-3. I. Designed to give a basic understanding of the ways in which radiation interacts with the biological system. The student will have a knowledge of the basic radiation protection philosophy and how this philosophy relates to him or her as a professional.

208 Radiographic Physics. LH-3; SH-3. II. Designed to provide a clear understanding of all sources and uses of medical radiation. Includes the study of radioisotopes, the production of X-rays, the interaction of radioactive material, the units of radioactive exposure and absorbed dose, and the measurement of radiation.

210 Radiographic Procedures III. LH-2; SH-2. S. Pr: RTE 101 and 201. Beginning with a review of RTE 101, this course will place emphasis on the additional or specialized positions which may be added to the routine examinations discussed in RTE 101 and 201.

212 Radiography III. LH-2; SH-2; S. Pr: RTE 104, 207, and 208. The student will gain an understanding of the basic method of performing quality control checks on X-ray generating equipment, accessory devices used in radiography, manual and automatic film processing, and X-ray beam collimation. The student will develop an appreciation for the advancement in technology that

pertains to this profession and recognize the importance of keeping abreast of these changes.

214 Trends in Radiography. LH-2; SH-2. S. Designed to give the student an awareness of the various sub-specialties within radiology, i.e.: radiation oncology, nuclear medicine technology, ultrasonics, special procedures radiography, etc. Additionally, the course will provide students with an appreciation for their responsibilities as professionals with regard to life-long learning and participation within national and local professional organizations.

301-302 Pathophysiology for Radiographers. LH-1; SH-1. I, II. PR: BIO 104 or equivalent. This course emphasizes pathology as demonstrated on the radiographic film in order to determine optimal positioning and radiographic techniques. The physiology and pathology which are recorded by the radiographic image, and factors which influence the radiologists diagnosis, therapy, and prognostic impression are also included.

309 Advanced Radiographic Physics. LH-3; SH-3. I. PR: RTE 207 or department approval. The course is designed to advance the students knowledge and understanding in the physical principles of diagnostic radiology. New applications and recent advances in radiation physics will be discussed.

310 Physics and Imaging of Diagnostic Radiology. LH-3; SH-3. II. PR: RTE 309. Designed to provide a clear understanding of the physical principles of various imaging modalities such as three phase generation, fluoroscopic and video, computerized tomography, ultrasound, and thermography.

404 Educational Practicum in Radiologic Technology. CH-16; SH-4. II. PR: EDU 300, and AHP 330 and 401. Supervised teaching practicum for students enrolled in the educational track. The practicum is designed to provide the student with a vehicle to integrate instructional methods in the classroom.

405 Applied Radiographic Management. LH-3; SH-3. I. PR: BUS 321 and 331. This course will aid the student in relating basic concepts in management to the radiological environment and relationship of the radiological facility to the health care system.

406 Management Practicum. CH-16; SH-4. II. PR: RTE 405 and HCM 404 and 406. This course is designed to allow the student to integrate managerial concepts and theory into the organizational environment of a diagnostic radiology department.

411 Theory and Practicum of Radiographic Quality Control. LH-3; SH-3. I. PR: RTE 310. Emphasis on measurement of beam quality, radiographic technique, and the implementation and evaluation of a quality assurance program. The course is a theoretical and investigative approach to achieving and maintaining quality assurance of radiographic systems.

412 Radiographic Health and Ecology. LH-3; SH-3. II. PR: RTE 310. An in depth course designed to integrate the physical aspects of radiation physics with radiobiology to develop an understanding of radiation protection.

Department of Occupational Therapy

"Since the primary focus of occupational therapy is the development of adaptive skills and performance capacity, its concern is with factors which serve as barriers or impediments to the individual's ability to function, as well as those factors which promote, influence, or enhance performance.

"Occupational therapy provides service to those individuals whose abilities to cope with tasks of living are threatened or impaired by development deficits—the aging process, poverty and cultural differences, physical injury or illness, or psychologic and social disability."²

HISTORY

The program in occupational therapy was initiated at Richmond Professional Institute in 1942.

In 1965 the graduate program leading to a Master of Science degree in basic professional education in occupational therapy was initiated. The School of Occupational Therapy became a department in the School of Allied Health Professions in 1970 with the creation of Virginia Commonwealth University.

PHILOSOPHY

The faculty of the Department of Occupational Therapy is concerned with improving the quality of occupational therapy professional services through education relevant to current consumer needs and through the development of student attitudes of commitment to personal and professional competence. Research, community service, and continuing education are viewed as ways to improve professional services and at the same time enhance the quality of the educational program.

The department seeks to provide individualization of educational experiences through a professional curriculum. This curriculum emphasizes experiential learning and provides an integrated education organized around a human developmental frame of reference.

² From *Definition and Functions*, American Occupational Therapy Association.

OBJECTIVES

To provide the student with the opportunity to become a competent registered occupational therapist through critical thinking and problem solving experiences.

To provide an environment for the student to develop respect for the dignity and basic needs of individuals throughout their life span as these may be met in present and future health care delivery systems.

To provide the student with the opportunity to develop skills necessary to evaluate and execute effective treatment in occupational therapy.

FACILITIES

The educational facilities of the Department of Occupational Therapy are located in the VMI Building at the northeast corner of 10th and Marshall Streets. In addition the department has an educational clinic at McGuire Veterans Administration Medical Center.

During the junior and senior years and the two years of the basic professional master's degree program field work assignments related to courses are made for students in a wide range of clinics and agencies in the Richmond metropolitan area. A minimum full-time 24-week extended field work requirement will be arranged in approved clinical education facilities throughout the United States.

ACCREDITATION

The undergraduate course of study in occupational therapy at Virginia Commonwealth University was first accredited by the American Medical Association, Council on Medical Education, and the Accreditation Committee of the American Occupational Therapy Association in 1943. The graduate program was accredited in 1966. Both the undergraduate and graduate programs were reaccredited in 1975.

HONORS AND AWARDS

Ann W. Saxton Literary Award. A \$200 annual award is available to an occupational therapy student at VCU. The award is based on the presentation of a manuscript which is, in the opinion of the faculty, worthy of publication in the *American Journal of Occupa-*

tional Therapy or a journal of a science or a topic related to occupational therapy.

A. D. Williams Award. An annual award presented to the student who has achieved the highest academic average in each class in the undergraduate program.

C. A. Kooiman Memorial Award. This award is given in memory of C. A. Kooiman, director of the occupational therapy curricula from 1961 until his death in 1976. The award is made annually to the graduate student completing the best research project.

PROGRAMS

Three courses of study are offered:

1. A curriculum leading to the Bachelor of Science in occupational therapy degree, which requires the completion of a minimum of 140 semester credits of work and over 960 clock hours of field work experience. Twelve weeks of the field work clock hours must be continuous.
2. Master's degree program—This program leads to the Master of Science in occupational therapy degree and is designed for college graduates who wish to become occupational therapists. This program is two calendar years in length, including a thesis or project plus 960 clock hours of field work experience. Twelve weeks of the field work clock hours must be continuous.
3. A Master of Science degree program for those who are registered occupational therapists—This program offers specialization in two areas: hand rehabilitation and pediatrics.

UNDERGRADUATE ADMISSION REQUIREMENTS

Students wishing to pursue a course of study leading to a Bachelor of Science degree in occupational therapy offered through the School of Allied Health Professions may be admitted after two years of college work. A total of 62 semester credits is required for entrance into the professional curriculum. Preference will be given to students who exhibit good potential for occupational therapy. An interview by members of the Admissions Committee is required in addition to information related to other criteria.

Prerequisites for Admission

English	6 semester hours
Biological Sciences	12 semester hours

Must include laboratory courses in human physiology and anatomy

Psychology	12 semester hours
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Must include developmental psychology and psychology of personality

Sociology	6 semester hours
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These are considered minimum requirements. Students are encouraged to pursue further study in biology, psychology, and sociology.

Correspondence relating to the curriculum in occupational therapy should be addressed to: Chairman, Department of Occupational Therapy, Virginia Commonwealth University, Medical College of Virginia, Box 8, MCV Station, Richmond, VA 23298.

For application to the professional curriculum and catalog, requests should be addressed to: Director of Admissions, Medical College of Virginia, Virginia Commonwealth University, Box 632, MCV Station, Richmond, VA 23298.

CURRICULUM

Each academic session has as a prerequisite successful completion of all preceding academic work. The undergraduate curriculum is under review, and changes are expected.

<i>Junior Year, Fall Semester</i>		<i>Semester Hours</i>
BIO 465	Functional Human Anatomy	4
OCT 301	Communications	3
OCT 305	Human Development and Dysfunction I	3
OCT 307	Development Modalities and Occupational Therapy Function I	4
OCT 309	Skills Laboratory I	2
		16

<i>Junior Year, Spring Semester</i>		
BIO 429	Neuroanatomy	3
OCT 302	Occupational Therapy in the Health Care System	3
OCT 306	Human Development and Dysfunction II	3
OCT 308	Developmental Modalities and Occupational Therapy Function II	4
OCT 310	Skills Laboratory II	2
		15

Senior Year, Fall Semester

OCT 405	Human Development and Dysfunction III	6
OCT 407	Developmental Modalities and Occupational Therapy Function III	6
OCT 409	Skills Laboratory III	2
OCT 411	Community Resources	3
		17

Senior Year, Spring Semester

OCT 412	Administration and Supervision of Occupational Therapy Services ..	3
OCT 414	Research Methods in Occupational Therapy	3
OCT 416	Special Topics in Occupational Therapy	3
Elective		3
		12

Field Work Sessions

OCT 450	Field Work	6-9
OCT 452	Field Work	6-9
OCT 460	Field Work (Optional)	6-9

ACADEMIC STANDARDS

Students are admitted to the occupational therapy programs with the expectation that they will direct maximum time and effort to the learning process. Outside activities must be scheduled by students for such dates and hours that permit full compliance with the time requirements for course work. Students must not expect that allowances will be made, except in very unusual situations, for tardiness, lack of regular attendance, and meeting deadlines for course assignments because of employment or other outside activities.

To continue in the undergraduate occupational therapy curriculum, students are expected to:

1. Receive a passing grade and maintain a 2.5 grade-point average in all required courses.
2. Pay all fees.
3. Maintain personal attributes and behavior which are consistent with admission criteria.
4. Complete field work requirements to the satisfaction of clinical and academic faculty.

A student who does not meet these standards may continue only with the recommendation of the departmental faculty.

Graduate students must maintain an overall grade-point average of 3.0. A student whose average falls below that point or who earns a "D" or "F" in any required course may

continue only with the recommendation of the departmental faculty. All other requirements listed above for undergraduate students apply also to graduate students (2, 3, and 4 above).

Although arrangements are made in advance, each undergraduate and graduate student is reviewed prior to placement in field work education. The student must have satisfactorily completed the courses prerequisite to that field work experience. He must also demonstrate the maturity, stability, professional attitude, and behavior which are essential for him to benefit from and perform adequately in the placement.

GRADUATE PROGRAM—BASIC PROFESSIONAL MASTER'S DEGREE

The Department of Occupational Therapy offers a program leading to a Master of Science in occupational therapy degree for qualified students who have earned a bachelor's degree in a related field.

Admission Requirements³

Admission to the graduate program in occupational therapy requires completion of a bachelor's degree from an accredited university or college. Applicants should have maintained a minimum grade point average of 2.5 based on a four-point scale. Exceptions to this standard may be made for applicants who present satisfactory evidence of their potential to undertake graduate study.

Applicants for the basic professional master's degree program must complete the following prerequisites with a grade of "C" or better:

English	6 semester hours
Biological Sciences	6 semester hours
Must include	
Human Anatomy with lab — 1 course and	
Human Physiology with lab — 1 course	
or	
Human Anatomy and	
Physiology with lab	6 semester hours
Psychology	12 semester hours
Must include	
Developmental Psychology — 1 course	
Theories of Personality — 1 course	
Abnormal Psychology — 1 course	
Sociology	6 semester hours
Statistics	1 course with a minimum of 2 semester hours

³ See also the School of Allied Health Professions section in *Graduate Bulletin*.

These are considered minimal prerequisites, and applicants are encouraged to pursue additional study in biology, psychology, and sociology. Also, course work or the ability to perform and teach activity skills (such as arts and crafts, music, recreation, work, and homemaking) and experience in occupational therapy or human service agencies are desirable. Admission is selective, since the number of applicants exceeds the number of students who can be enrolled.

Applicants for admission will be required to submit an official transcript from each institution attended, an application form and a non-refundable \$10 application fee, reference forms, and an official report of scores on the Graduate Record Examination Aptitude Test. The deadline for completed applications is February 1.

For further information and application materials, contact the Office of the Dean, School of Allied Health Professions, Virginia Commonwealth University, Medical College of Virginia, Box 233, MCV Station, Richmond, VA 23298.

Curriculum Plan

The total program is planned for completion in two calendar years of full-time study and encompasses academic and field work education as well as a research project. Each academic session has as a prerequisite successful completion of all preceding academic work. The curriculum is under review, and changes are expected.

		Semester
		Hours
<i>First Year, Summer Session</i>		
BIO 565	Functional Human Anatomy	5
BIO 529	Neuroanatomy	3
		8
<i>First Year, Fall Semester</i>		
OCT 501	Basic Treatment Concepts and	
	Skills	2
OCT 505	Development and Dysfunction I ...	5
OCT 507	Treatment Theory and Practice I ...	6
OCT 509	Activity Theory and Skills I	2
		15
<i>First Year, Spring Semester</i>		
OCT 502	Research Methods in Occupational	
	Therapy	3
OCT 506	Development and Dysfunction II ...	5
OCT 508	Treatment Theory and Practice II ...	6
OCT 510	Activity Theory and Skills II	2
		16

Second Year, Summer Session

OCT 600	Field Work Education I.....	9
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Second Year, Fall Semester

OCT 603	Administration and Supervision of Occupational Therapy Services ..	3
OCT 605	Influences on Health and Health Care	2
HCM 500	Hospital and Medical Care Organization	3
OCT 650	Special Topics in Occupational Therapy	3
OCT 691	Research in Occupational Therapy	3
		14

Second Year, Spring Semester

OCT 660	Field Work Education II.....	9
OCT 692	Research in Occupational Therapy	3
		12

GRADUATE PROGRAM—ADVANCED MASTER'S DEGREE (PEDIATRIC SPECIALIZATION)

The Department of Occupational Therapy offers an advanced master's degree program for occupational therapists who wish to specialize in pediatrics.

Admission Requirements

Applicants must have earned a bachelor's degree from an accredited college or university. All applicants must have graduated from an accredited occupational therapy program approved by the American Medical Association and the American Occupational Therapy Association. Two years of professional experience working with children are required.

Curriculum Plan

The advanced master's degree program with specialization in pediatrics includes 30 hours of approved course work and a thesis. Students must plan for 12 months of full-time study beginning in the fall semester.

Each occupational therapist accepted for the advanced master's degree program will develop an individualized plan of study with the help of a faculty advisor. This study plan must be approved by the Graduate Education and Research Committee of the Department of Occupational Therapy.

		<i>Semester Hours</i>
<i>Fall Semester</i>		
OCT 502	Research Methods in Occupational Therapy	3
OCT 611	The Habilitation Team in Public Schools.....	3

OCT 612	Occupational Therapy Assessment of Children.....	3
BIS 512	Statistical Principles of Health Care Information.....	3
	Approved elective.....	3
		15

Spring Semester

OCT 613	Occupational Therapy: From Research to Practice in Cognitive Development	3
OCT 614	Occupational Therapy for Severely Handicapped Children	3
	Approved electives	9
		15

Summer Session

OCT 691	Research in Occupational Therapy	3
OCT 692	Research in Occupational Therapy	3
		6

*Elective Courses**Group A Select one:*

EDU 505	Adolescent Medical and Social Problems.....	3
EDU 556	Characteristics of the Mentally Retarded	3
EDU 661	Characteristics of Children with Learning Disabilities.....	3

Group B Select one:

PSY 511	Survey of Psychological Tests	3
EDU 568	Psycho-Educational Diagnosis of Children.....	3
EDU 679	Educational Measurement and Evaluation	3

Group C

PSY 503	Introduction to Psycholinguistics...	3
PSY 603	Developmental Processes	3
EDU 503	Guidance for Exceptional Children	3
EDU 656	Language Development for Severely Handicapped Children .	3
EDU 670	Strategies for Teaching the Severely Handicapped	3
EDU 690	Group Procedures in Counseling and Guidance.....	3
OCT 650	Special Topics in Occupational Therapy	3

Note: Students who have completed previous course work in statistics may substitute an approved elective for BIS 512.

GRADUATE PROGRAM—ADVANCED MASTER'S DEGREE (HAND REHABILITATION SPECIALIZATION)

The Department of Occupational Therapy offers an advanced graduate program with specialization in hand rehabilitation. The program is planned for experienced occupational therapists with special interest in functional assessment of hand problems, diagnosis of hand problems, and therapeutic programs for upper extremity problems.

The hand rehabilitation program in occupational therapy is offered under the guidance of Wyndell H. Merritt, M.D. and the Department of Occupational Therapy and in collaboration with the Department of Physical Therapy. One occupational therapist will be selected to participate each year.

Admission Requirements

Applicants must have earned a bachelor's degree from an accredited college or university. All applicants must have graduated from an accredited occupational therapy program approved by the American Medical Association and the American Occupational Therapy Association. Professional experience and special interest in hand rehabilitation is required.

Curriculum Plan

The advanced master's degree program with specialization in hand rehabilitation requires 45 semester hours of course work and a thesis. A minimum of 18 months of full-time study is needed to complete the program. Courses begin in the fall semester.

FACULTY

Professor: Maurer (Chairman)

Associate Professors: Bearden; Powell; Saxton; Wolfe

Assistant Professors: Ford; Hopkins; Loveland; Meyers; Nelson; Robertson

Clinical Instructors: Burrage; Cerny; Gorman; Hanshaw; McDaniel; Miller; Shepherd

COURSES OF INSTRUCTION (OCT)

BIO 429 Neuroanatomy. LH-2; Lab H-2; SH-3. II. PR: BIO 305. A study of the morphology and functional aspects of the central and peripheral nervous system of the human body.

BIO 465 Functional Human Anatomy. LH-3; Lab H-3; SH-4. I. PR: BIO 205 or equivalent. A study of the anatomy and kinesiology of the human body using prosected specimens and the dissected cadaver. Particular emphasis is placed upon the study of the extremities. Intended primarily for majors in occupational therapy; not applicable to the major in biology.

301 Communications LH-3; SH-3. I. This course is designed to introduce the occupational therapy student to the following: elements of effective communication in interpersonal relationships, nonverbal communication, problem-solving techniques, information gathering techniques (observation, interview, documentary search, questionnaires), learning-teaching approaches, documenta-

tion, and use of medical terminology. The necessity of knowledge of these areas for appropriate professional communication is stressed.

302 Occupational Therapy in the Health Care System. LH-3; SH-3. II. This course is designed to introduce the occupational therapy student to the following: patterns of health care in the U.S. and abroad, health care crises, the allied health professions, the scope and functions of occupational therapy, and professional issues of concern to occupational therapists.

305 Human Development and Dysfunction I. LH-3; SH-3. I. A study of developmental influences, from fetal stages through childhood, as related to neuromotor, perceptual-cognitive (sensory integration), sociocultural, and psychological-behavioral theories. Normal development is contrasted to pediatric conditions of dysfunction as seen in medical, educational, and community settings.

306 Human Development and Dysfunction II. LH-3; SH-3. II. Study of adolescent developmental tasks as they lead to goal setting and career planning, coping mechanisms and psychopathologies, and specific physical pathologies of adolescence.

307 Developmental Modalities and Occupational Therapy Function I. LH-2; Lab H-4; SH-4. I. This course is structured to guide the occupational therapy student in an exploration of those activities, materials, and settings which promote normal growth. Application of developmental stimulation and therapy principles is studied to parallel OCT 305. Assigned field work is a major portion of this course.

308 Developmental Modalities and Occupational Therapy Function II. LH-2; Lab H-4; SH-4. II. This course will provide the occupational therapy student with evaluative measures and systems to analyze physical and psychosocial dysfunction. It will also include those techniques and material utilized by occupational therapists to provide adaptation to disability.

309 Skills Laboratory I. LH-1; Lab H-2; SH-2. I. Introduction to minor crafts, weaving, and leisure activities appropriate for infancy through old age. Emphasis is placed on activity analysis and adaptation.

310 Skills Laboratory II. LH-1; Lab H-2; SH-2. II. Two units of instruction: woodworking—use of hand and power tools, construction and finishing techniques, and their therapeutic application; and ceramics—use of various non-wheel ceramic techniques and their therapeutic application.

405 Human Development and Dysfunction III. LH-6; SH-6. I. An introduction to normal functioning and the major physical and psycho-social problems which impair normal development in middle adulthood and old age.

407 Developmental Modalities and Occupational Therapy Function III. LH-3; Lab H-6; SH-6. I. An introduction to treatment principles which can be applied to adults with physical and/or psychosocial dysfunctions.

409 Skills Laboratory III. Lab H-5; SH-2. I. Four units of instruction which orient the student to various types of

splints and their construction and upper extremity slings; the nature of work, work evaluation, and adjustment; activities of daily living and adaptive devices; and life skills.

411 Community Resources. SH-3; LH-3. I. Given a variety of community health resources, the student will analyze each in terms of its organizational structure, funding sources, purposes, client eligibility, accessibility, and scope of services, and apply principles of occupational therapy in prevention (1) by selecting appropriate sources for client referral, (2) by providing direct services or consultation to an agency, and (3) by demonstrating methods by which occupational therapists can relate to community resources.

412 Administration and Supervision of Occupational Therapy Services. LH-2; Lab H-2; SH-3. II. Covers the management of human and nonhuman resources to provide efficient and effective occupational therapy services: the nature of formal and informal organizations, the administrative process, and administrative tasks. Includes supervision, consultation, and the planning of occupational therapy field work education.

414 Research Methods in Occupational Therapy. LH-3; SH-3. II. Covers the steps in the research process: problem definition, literature review, research design, and data collection appropriate for occupational therapy, data analysis and interpretation, and research reporting. Emphasizes action research, evaluation research, and development of a research proposal. Taken during March-May of senior year.

416 Special Topics in Occupational Therapy. SH-3. II. Designed around the interests of students, faculty expertise, and availability and expertise of Richmond area occupational therapists or visiting lecturers. Format may include intensive mini-courses or workshops, and advanced course, or independent study with some opportunity for election and the development of knowledge and skills in a specialized area of occupational therapy. Taken during March-May of senior year.

450 Field Work. SH-6-9.

452 Field Work. SH-6-9.

460 Field Work. SH-6-9. Minimum total required for all field work courses, 18 SH. Determination of the amount of credit and permission of the instructor and department chairman must be secured prior to registration for the course.

Supervised field work experiences are arranged in various settings for the application of academically acquired knowledge. Placements will include experiences in prevention, health maintenance, remediation, daily life tasks, and vocational adjustment. Field work settings may include hospitals, rehabilitation centers, school systems, community agencies, penal systems, etc.

Field work experiences are arranged individually, but placement in a specified location cannot be guaranteed. A minimum total of 24 weeks is required. Twelve weeks of this must be spent on a full-time basis. When equivalent time is used, the experience will be appropriate to the learning needs of the student and will meet the stated objectives of the field experience.

When the field work runs over a grading period, an interim grade of "PR" will be assigned. In the event of failure, the course may be repeated only upon recommendation by the academic and clinical faculty.

Field work must be completed no later than 24 months following completion of the academic phase.

GRADUATE COURSES (OCT)

BIO 529 Neuroanatomy. LH-2; Lab H-2; SH-3. S. PR: BIO 305 or permission of instructor. A study of the morphology and functional aspects of the central and peripheral nervous systems of the human body.

BIO 565 Functional Human Anatomy. LH-3; Lab H-4; SH-5. S. PR: BIO 205 or equivalent. A study of the anatomy and kinesiology of the human body using prosected specimens and the dissected cadaver. Particular emphasis is placed upon the study of the extremities. Intended primarily for students in the Department of Occupational Therapy.

BIS 521 Statistical Principles of Health Care Information. See page 113.

HCM 500. Hospital and Medical Care Organization.

501 Basic Treatment Concepts and Skills. LH-1; Lab H-2; SH-2. I. Introduces important occupational therapy concepts: the influence of activity on health, the basic occupational therapy process, evaluation, motivation, and learning. Develops skill in observation and interviewing as data gathering methods.

502 Research Methods in Occupational Therapy. LH-3; SH-3. II. Covers the steps in the research process: problem definition, literature review, research design and data collection appropriate to occupational therapy, data analysis and interpretation, and research reporting. Emphasizes action research, evaluation research, and the preparation of a proposal for a thesis or project. Students with prior course work or experience in research may be permitted to take an elective instead of this course.

505 Development and Dysfunction I. LH-5; SH-5. I. A study of development processes and influences, from fetal stages through adolescence, in terms of neuromotor, sensory integrative, sociocultural, and psychological behavioral theories. Normal development is contrasted to deviations from the health continuum as seen in medical, educational, and community settings.

506 Development and Dysfunction II. LH-5; SH-5. II. Starting with early adult years and covering the rest of the life span. Includes age-related and non-age-related disease and disability. Focuses on physical and psychosocial problems affecting this developmental group and the theories, principles, and processes utilized in occupational therapy.

507 Treatment Theory and Practice I. LH-4; Lab H-4; SH-6. I. Application of the principles of developmental stimulation and developmental therapy will be explored to parallel OCT 505. Activities, materials, settings, and relationships which promote normal growth are studied

and utilized in the field work phase, a major portion of this course.

508 Treatment Theory and Practice II. LH-4; Lab H-4; SH-6. II. Theory, evaluation, and remediation of deficits in motor, sensory, perceptual, cognitive, psychologic, and social functioning related to adult clients or unrelated to a specific age group. Focuses on the application of occupational therapy principles and processes in fieldwork settings for treatment of physical and psychosocial dysfunction of this developmental group.

509-510 Activity Theory and Skills I and II. LH-1; Lab H-2; SH-2. I and II. Analysis of student's activity history and skills in areas of play/leisure, self-care, homemaking, and work and development of skill in performing selected activities, including splintmaking. Emphasizes teaching, analysis, and therapeutic application of activities. Also stressed are evaluation and development of client's work, homemaking, and daily living skills.

600 Field Work Education I. SH-9. S. Twelve-week full-time experience in programs providing occupational therapy services.

Supervised field work experiences are arranged in various settings for the application of academically acquired knowledge. Placements include experiences in prevention, health maintenance, remediation, daily life tasks, and vocational adjustment. Field work settings may include hospitals, rehabilitation centers, school systems, community agencies, camping programs, penal systems, and the like. Field work experiences are arranged individually, but placement in a specified location cannot be guaranteed.

In the event of failure, the course may be repeated only upon recommendation by the academic and clinical faculty. Field work must be completed no later than 24 months following completion of the academic phase.

603 Administration and Supervision of Occupational Therapy Services. LH-2; Lab H-2; SH-3. I. The management of human and non-human resources in the provision of efficient and effective occupational therapy services; the nature of formal and informal organizations, the administrative process, and administrative tasks. Includes supervision, consultation, and the planning of occupational therapy field work education.

605 Influences on Health and Health Care. LH-2; SH-2. I. The nature of health, illness, and disability; the sick role; relationship between occupational therapy and the health care system; current professional issues in occupational therapy.

611 The Habilitation Team in Public Schools. LH-3; SH-3. I. Examination of P.L. 94-142, The Education for All Handicapped Children Act of 1975, with implications for allied health professionals. Emphasis on the role of the habilitation team in school programs for handicapped children.

612 Occupational Therapy Assessment of Children. LH-3; SH-3. I. Introduction to the theory of testing. Administration, scoring, interpretation, and reporting of selected tests and informal assessments useful in an occupational therapy evaluation of children. Field work experiences will be required.

613 Occupational Therapy: From Research to Practice in Cognitive Development. LH-3; SH-3. II. Review of current theory and research in cognitive development. Application of child development research to handicapped children. Emphasis on the practical implications for pediatric occupational therapy.

614 Occupational Therapy for Severely Handicapped Children. LH-3; SH-3. II. PR: OCT 612. Selected intervention strategies for pediatric occupational therapy. Emphasis on theory and the application of research to the treatment of severely handicapped children.

650 Special Topics in Occupational Therapy. SH-3. I. Designed around the interests of students, faculty expertise, and availability and expertise of Richmond area occupational therapists or visiting lecturers. Format may include intensive minicourses or workshops, an advanced course, or independent study with some opportunity for election and development of knowledge and skills in a specialized area of occupational therapy.

660 Field Work Education II. SH-9. II. Twelve-week full-time experience, or its equivalent, in programs providing occupational therapy services. Further description and regulations for OCT 600 also apply to this course.

691-692 Research in Occupational Therapy. SH-6. I, II. Completion of research or a demonstration or developmental project related to occupational therapy and a report on the background, design, and results of the study or project.

Program of Patient Counseling

HISTORY

"Patient Counseling" is a relatively new title for the practice of communicating empathic concern, support, and sensitive counsel to the physically or emotionally troubled person, and assisting him through the traumas of life. There is a long history of a concerted effort toward this end at the MCV Hospitals of Virginia Commonwealth University. With the appointment of the Reverend Dr. George D. Ossman as chaplain in 1943, the administration gave clear evidence of its awareness of the need for a specialized caring ministry to the hospitalized patient and his family. The chaplaincy program was significantly expanded in 1958 and was certified to begin training clergymen in the area of pastoral counseling of troubled persons. Since then, a continuous certificate-awarding, accredited program has been in existence and has evolved into the present program in patient counseling. Patient counseling, as it exists today, became an integrated program in the School of Allied Health Professions in 1970.

PHILOSOPHY

With the rapid growth of health care and the increasingly complex problems of medical ethics and viable delivery systems, it is very important to educate qualified persons to deal with the human dimensions of illness and the personal and family stress related to it. Through this program, Virginia Commonwealth University has an opportunity to make a needed impact upon health education in terms of emphasizing the human needs related to crises of living. By so doing, this university has a significant role to play in the important task of keeping health care human and utilizing technical and scientific methodology in the context of a deep respect for the total life of persons under stress.

OBJECTIVES

The Program of Patient Counseling is designed to assist an individual to work in the health field as one skilled in dealing with the whole person in the context of his crisis and in a cooperative interprofessional team approach. It is offered to persons who have an existing identity in a helping or counseling profession. This includes: clergy, social workers, institutional counselors, education specialists, psychologists, community health workers, and others in various aspects of the health professions. Basically, the program is designed to educate persons in understanding and counseling those who are involved in crisis situations, such as illness, impending death, injury, emotional collapse, family adjustment to health crisis or loss, unwanted pregnancy, and other such life crises.

FUTURE PLANS

A master's degree with a major in health and crisis-related personal and family counseling, emphasizing the practical and clinical competence of such counseling, is currently in the planning stages. A soundly based research program is in the process of development and implementation.

FACILITIES

Newton House is the base for the educational program and limited space is available in clinical areas to work with persons and families in crisis.

ACCREDITATION

The program is accredited by the Association for Clinical Pastoral Education, Incorporated. Advanced residents, upon vote of the faculty, may present themselves to the Association for Clinical Pastoral Education and/or the American Association of Pastoral Counselors for certification.

CODE OF ETHICS

The professional behavior of the student is expected to be in accordance with the Code of Professional Ethics, as adopted by the American Association of Pastoral Counselors on April 24, 1965, (excluding Principle IV). This code may be found in the offices of the faculty.

PROGRAMS

Students and residents serve in the dual capacity of providing service while learning. Classes are primarily patient oriented, with actual patient contact as the learning vehicle. Didactic classes are coordinated with the entire learning process. Seminars comprise 10 hours per week, other classes eight hours per week, and service care of patients the remainder. Night duty and weekend duty in rotation is required of all students in the program. Each student receives weekly individual supervision by a member of the faculty.

Several courses are offered for persons at different levels of experience and training:

1. (a) Part-time programs are available for local persons who wish to commute. This requires two days per week (plus overnights) for 16 weeks. These programs are offered twice per academic year, in the fall and spring semesters. (b) One day per week for both semesters.

2. A course for 11 weeks in the summer session is full-time and is available to post-graduate students.

3. A Residency I level year is available to six mature, experienced persons.

4. A Residency II level year is available to three selected persons in supervisory training.

5. Two senior residents, Residency III, function administratively as departmental assistants and teaching fellows.

Residents receive stipends for services rendered. Information about stipends may be secured by contacting the admissions chairman.

ADMISSION REQUIREMENTS

1. Fall and spring semester programs: B.A. or its equivalent B.D., M.Div., M.A., Ph.D., or equivalent. Professional standing in the community. Personal interview with a member of the supervisory staff.
2. Summer session (11 weeks): B.A., or its equivalent. Enrollment in an accredited graduate school or its equivalent, or demonstration of professional competence. Personal interview with representative of the program.
3. Residency I: B.A., or its equivalent B.D., M.Div., M.A., Ph.D., or equivalent. Recognition in the professional community. Demonstration of personal maturity. Personal interview with supervisory staff.
4. Residency II: B.A., or its equivalent B.D., M.Div., M.A., Ph.D., or equivalent. Professional standing in the community. Two to five years experience in chosen profession. An expressed interest in pursuing the supervisory training process. Demonstration of personal psychotherapeutic or counseling experience. Intern year in an accredited center. Personal interview with supervisory staff.
5. Residency III: All of Residency II requirements, plus two full years of training in an accredited center. Endorsement for supervisory training by the Regional Certification and Accreditation Committee of the Association for Clinical Pastoral Education, Inc.

CURRICULUM

		Semester Hours		
<i>Residency I</i>		<i>Fall</i>	<i>Spring</i>	<i>Summer</i>
PAC 551-552	Selected Issues in Health Care: I and II.....	2	2	—
PAC 553-554	Use of Religious Resources in Patient Care.....	2	2	—
PAC 555	Theory and Practice of Patient Counseling I.....	3	—	—
PAC 556	Theory and Practice of Patient Counseling II....	—	3	—

PAC 557-558	Clinical Practicum: I and II	6	6	—
PAC 561-562	Group Process: I and II	2	2	—
PAC 570	Clinical Research ..	—	—	4
PAC 580	Clinical Practicum III	—	—	5
PAC 590	Practicum in Group Process ..	—	—	1
		15	15	10

Residency II

PAC 601-602	Selected Issues in Health Care III and IV	2	2	—
PAC 603-604	Patient Counseling Evaluation: I and II	4	4	—
PAC 605-606	Pastoral Counseling I and II	3	3	—
PAC 607-608	Group Process: I and II	2	2	—
PAC 611-612	Clinical Pastoral Supervision: I and II	2	2	—
PAC 620	Clinical Practicum in Research	—	—	5
PAC 630	Pastoral Counseling Practicum	—	—	4
PAC 640	Group Process Practicum	—	—	1
		13	13	10

Residency III

PAC 651-652	Advanced Clinical Pastoral Supervision I and II	7	7	—
PAC 653-654	Advanced Pastoral Counseling I and II	3	3	—
PAC 655-656	Selected Issues in Health Care: V and VI	2	2	—
PAC 660	Supervision Practicum	—	—	10
		12	12	10

Summer Intern Basic Program

PAC 500	Selected Issues in Health Care	2
PAC 510	Introduction to Patient Counseling	5
PAC 520	Use of Religious Resources in Patient Care	1
PAC 530	Introduction to Group Process	1
PAC 540	Foundations of the Person	1
		10

FACULTY

Professor: Prest (Chairman)
 Assistant Professors: Mauney; Young
 Instructor: Puckett
 Clinical Instructor: Barr
 Lecturer: Oglesby

COURSES OF INSTRUCTION (PAC)

The Program of Patient Counseling has an integrated curriculum in which the summer basic intern and residency level students experience their core courses as a group. Exceptions to this rule are by faculty invitation only. Admission to any of the courses below is upon approval of the instructor.

PAC 551-552 Selected Issues in Health Care: I and II. LH-4; SH-4. I and II. Theory, research, and techniques in specialized topics of current interest are presented. Guest lecturers are utilized extensively.

553-554 Use of Religious Resources in Patient Care: I and II. LH-4; SH-4. I and II. Students present clinical material related to subject area for class reaction and supervision. Primary emphasis is given to student's work with hospitalized people. Religious rituals, methodology of usage, and philosophical and theological issues will be covered.

555 Theory and Practice of Patient Counseling I. LH-3; SH-3. I. A broad course for the beginning postgraduate student in patient counseling, emphasizing the role of the patient counselor, theological foundations, death and dying, ministry to the poor and aging.

556 Theory and Practice of Patient Counseling II. LH-3; SH-3. II. Emphasis on psychological foundations of pastoral care and counseling, crisis intervention, human sexuality, marriage and family counseling, pastoral counseling of alcoholics, and group dynamics.

557-558 Clinical Practicum: I and II. LH-8; CH-28; SH-12. I and II. The student is assigned to selected areas of the hospital and is given the opportunity to apply and practice interview and therapeutic skills with patients and their families. The student is given the opportunity to present clinical materials in seminar and receive peer feedback. All practicum work is performed under the supervision of an appropriate faculty member.

561-562 Group Process: I and II. LH-4; SH-4. I and II. This course utilizes small group interaction as a vehicle to explore techniques and procedures common to group behavior and as a laboratory for learning relational skills and techniques.

570 Research LH-1; CH-8; SH-4. S. The student is expected to do an original research project utilizing the clinical areas of the hospital and to present this to the department.

580 Clinical Practicum III. LH-3; CH-7; SH-5. S. Emphasis given to the areas in which the student is doing his research project for the summer.

590 Practicum in Group Process. CH-2; SH-1. S. This course is a continuation of PAC 561-562.

Residency II

601-602 Selected Issues in Health Care: III and IV. LH-4; SH-4. I and II. Theory, research, and techniques in specialized topics of current interest are presented. Guest lecturers are utilized extensively. Students are expected to present a topic of their own interest.

603-604 Patient Counseling Evaluation: I and II. LH-4; CH-20; SH-8. I and II. The objective of this course is to evaluate the developing ability of the student in patient care situations and to increase the level of competence as a hospital counselor-chaplain.

605-606 Pastoral Counseling: I and II. LH-4; CH-6; SH-6. I and II. Issues and dynamics developed in the counseling relationship are explored in terms of both the counselor and counselee. Each student is expected to be involved in at least one on-going counseling relationship and to submit tapes periodically demonstrating the counseling process.

607-608 Group Process: I and II. LH-4; SH-4. I and II. This course utilizes small group interaction as a vehicle for learning relational skills and techniques.

611-612 Clinical Pastoral Supervision: I and II. LH-4; SH-4. I and II. Introduction to clinical supervision for those students whose goal is to become certified as supervisors in clinical pastoral education. Experiences under supervision of the students themselves will be utilized, as well as supervision the advanced students may be giving to beginning students, and the rapidly growing literature in clinical supervision.

620 Clinical Research. LH-1; CH-8; SH-5. S. The advanced student is given an opportunity to research and study an area of specialty within the hospital and develop further a competency in that specialty. Original research is expected and supervision is provided for this work.

630 Pastoral Counseling Practicum LH-2; CH-4; SH-4. S. Pr: PAC 605-606. Emphasis on increased competency in counseling. Audio and video tapes are used to evaluate the counseling process. A growing professional identity as counselor is expected of the student.

640 Group Process Practicum. CH-2; SH-1. S. PR: PAC 607-608. Group dynamics are experienced and observed through functioning as a small interactive group.

Residency III

651-652 Advanced Clinical Pastoral Supervision: I and II. LH-4; CH-30; SH-14. I and II. Advanced students who are supervising beginning students will present their work for critique by the faculty. Emphasis will be given to gaining skill in the theory and practice of supervision, developing and administering an educational program, integrating and understanding of the person as seen from the various helping disciplines, and developing skill in group functioning and leadership.

653-654 Advanced Pastoral Counseling Practicum: I and II. LH-4; CH-6; SH-3. I and II. PR: PAC 605-606.

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Particular emphasis given to the growing identity and competence as a counselor. Peer feedback is evaluated as a part of the learning process. Students critique each other with faculty supervision.

655-656 Selected Issues in Health Care: V and VI. LH-4; SH-4. I and II. PR: PAC 601-602. The student is expected to assume a leadership role in this seminar and demonstrate competency in presentation.

660 Supervision Practicum. CH-30; SH-10. S. The post-graduate student in patient counseling is given an opportunity to apply supervisory skills through designing and conducting a clinical educational experience for basic students in patient counseling. Careful supervision and evaluation of the student is provided. Available only to post-graduate students in patient counseling approved by the faculty.

Summer Basic Program

500 Selected Issues in Health Care. LH-3; SH-2. S. A variety of health care professionals are utilized to present to the beginning student selected topics designed to enable the student to better understand the various forces at work in health care and the resources that are available. Special emphasis is given to understanding the general hospital and its role in the community.

510 Introduction to Patient Counseling. LH-4; CH-14; SH-5. S. The student is assigned to selected areas of the hospital and is given the opportunity to practice and develop relational skills with patients and their families as they adjust to the hospital situation, and to present this work for supervision and peer feedback in seminars and individual supervision.

520 Use of Religious Resources in Patient Care. LH-2; SH-1. S. Students present clinical material related to subject area for class reaction and supervision. Religious rituals, methodology of usage, and philosophical and theological issues will be covered.

530 Introduction to Group Process. LH-2; SH-1. S. This course utilizes small group interaction as a vehicle to explore techniques and procedures common to group behavior and as a laboratory for learning relational skills and techniques.

540 Foundations of the Person. LH-2; SH-1. S. A comparative look at theological and behavioral understandings of the person, with particular emphasis given to implications for health and illness.

Courses Offered to Part-time Students

451-452 (551-552) Selected Issues in Health Care. LH-1; SH-1. Theory, research, and techniques in specialized topics of current interest are presented. Guest lecturers are utilized extensively. Offered fall and spring semesters. Undergraduate credit is given to those persons who do not hold baccalaureate degrees.

410 (510) Introduction to Patient Counseling. LH-4; CH-10; SH-5. The student is assigned to selected areas of the hospital and is given the opportunity to practice and

develop relational skills with patients and their families as they adjust to the hospital situation, and to present this work for supervision and peer feedback in seminars and individual supervision. Offered fall and spring semesters.

411 (511) The Professional as Helper. LH-2; SH-2. Utilizing the student's professional identity as a helping person, this course is designed to enable the student to identify areas of growth and to develop a model for learning in these areas. The student's professional functioning within the community and the hospital is to be presented to the seminar for group discussion and supervision. Current literature in the field will be explored and application made to the learning areas. Offered fall and spring semesters.

413 (513) Directed Study. Variable Credit. 2-3 hours. The student is given the opportunity to increase his clinical and interpersonal skills in specialty areas through patient care, parallel reading, and individual supervision. The student is expected to take responsibility for his learning process.

415 (515) Cancer: Ministry to Patient and Family. LH-3; CH-3; SH-4. This course focuses on the patient and family who have encountered cancer. It will deal with grief and the process of dying or finding new life. Creative approaches are explored. Offered only in spring semester.

416 (516) Ministry to Alcoholics. LH-3; CH-3; SH-4. Directed toward the parish pastor, this course offers clinical and educational experience in the Bureau of Alcohol Studies and Rehabilitation, with relationship to treatment and referral. Offered only in spring semester.

421 (521) Caregivers of the Dying: Living with Death. LH-3; SH-3. The student is exposed to the phenomenon of death through literature, lectures, films, and discussions. Small group experiences under faculty supervision provide interpersonal stimulation, offering an opportunity to correlate knowledge with personal stance.

Department of Physical Therapy

HISTORY

The Department of Physical Therapy of the School of Allied Health Professions was established in 1945 as the School of Physical Therapy at the Medical College of Virginia. Between 1945 and 1954 the program consisted of a 12-month professional course based upon at least three years of college work or the possession of an R.N. title. In 1954, a two-year program based on previous college work was initiated leading to the Bachelor of Science degree in physical therapy. In 1955, the school offered the degree of Bachelor of Science in physical therapy to eligible graduates for the first time. The last 12-month professional course was offered during the school

year of 1954-55. Between 1956 and 1968 the two-year professional program leading to the Bachelor of Science degree was the only program offered.

In 1946, a graduate program offering the Master of Science degree in physical therapy was established and continued to function until 1952 when it was discontinued. The program was reinstituted in 1968 and expanded in 1971 under a full-time director.

PHILOSOPHY OF PHYSICAL THERAPY EDUCATION

The philosophy upon which our total educational program is built encompasses both academic and clinical components.

We believe that excellence in the educational process provides:

1. For the student a stimulating and challenging environment which permits learning through intellectual inquiry and discovery.

2. For the student to develop facilities for self-expression and self-evaluation and to learn to share experiences with classmates, instructors, and others.

3. For the student to discover that learning for and within a profession is a lifelong process.

4. For the student to develop a sense of responsibility toward his patient. This implies an understanding of the patient's problems and his total treatment, an inquisitive attitude toward the total treatment of his patient and a compelling sense of obligation to provide for the patient the best form of treatment possible at all times.

5. For the members of the faculty to be given the opportunity to develop professionally and personally toward self-gratification.

6. For the faculty to be functioning in an atmosphere which permits individual expression, implementation of change, and mutual respect.

OBJECTIVES

The objectives of the Department of Physical Therapy as stated by the faculty are as follows:

1. To provide the best possible education for the student in physical therapy.

2. To provide an environment which allows the student to develop the capacity for par-

ticipating in any of the various areas of physical therapy practice.

3. The student will acquire the ability to analyze and interpret his observations.

4. Based on medical referral, the student will be able to evaluate the patient's status and select specific and appropriate treatment procedures.

5. The student will develop understanding for total patient care as related to other health professions both in institutional care, in community facilities, and in the patient's home.

6. The student will develop ability to assume responsibilities in the administration of different types of treatment facilities.

7. The student will further develop the facilities for continuing and self-education.

8. The student will continue to develop and improve skills of communication and personal relationships.

9. The student will be able to grow professionally and contribute in supervision, instruction, or research.

10. The student will develop respect for the dignity of man and an understanding of basic human needs.

FACILITIES

The Department of Physical Therapy is located on the third and fourth floors of MCV South Hospital at the southeast corner of Twelfth and Broad Streets.

This building houses administrative and faculty offices, classrooms, physical therapy laboratories, and student facilities, such as locker rooms and lounge. Classrooms and laboratories in other buildings on campus are used as needed.

Clinical education experiences for the students are offered in physical therapy clinics throughout Virginia and the country.

ACCREDITATION

The program offered by the Department of Physical Therapy, first accredited in 1945, was most recently re-accredited in 1976 by a joint committee of the American Physical Therapy Association and the Council on Medical Education of the American Medical Association.

ADMISSIONS

Prerequisites for admission include a minimum of 64 semester hours (or 96 quarter

hours) in an accredited college of university. A grade of "D" in any of the required courses is not acceptable. The average grade for all required courses must be above "C". Priority will be given to qualified Virginia residents.

This program of study must include a minimum of:

1. English—6 semester hours, 9 quarter hours, or the equivalent.
2. Biological Sciences—8 semester hours or 12 quarter hours including laboratory experience. This may be satisfied by general biology or general zoology. No more than half may be botany.
3. Chemistry—a course in general chemistry, 8 semester hours including laboratory experience.
4. Physics—a course in general physics, 8 semester hours including laboratory experience.
5. Mathematics—must have completed college algebra and plane trigonometry or the equivalent.
6. Social Science—6 semester or 9 quarter hours in psychology—3 semester hours must be in general psychology. A total of 12 hours in social science.

Recommended courses to complete this requirement are:

child, adolescent, or abnormal psychology, personality development, psychology of adjustment, sociology, anthropology, economics, history, philosophy, or statistics.

In addition to the requirements some recommended courses include:

embryology, histology, comparative anatomy, vertebrate or human anatomy, kinesiology and human physiology, foreign languages, such as Latin, French, or German, analytic geometry, calculus, and courses in physical education dealing with an analytical approach to human movement.

SELECTION FACTORS

Sources of information on which the comparative evaluation process is based are academic records, standardized test scores, and personal interviews. Special consideration will be given to the following characteristics:

Demonstrated academic skill and ability with emphasis placed on achievement in those areas consistent with prerequisite requirements are of significance to the Admissions Committee in the selection process.

Indicate potential for a strong sense of purpose leading to serious commitment to becoming a professional physical therapist.

Indication of consistent and realistic self appraisal and ability to recognize need for change in behavior while developing toward professional competence.

Information concerning the profession of physical therapy or the program at MCV/VCU may be obtained by writing to: Department of Physical Therapy, Medical College of Virginia, Virginia Commonwealth University, Box 224, MCV Station, Richmond, VA 23298.

CURRICULUM PLAN

The total physical therapy curriculum is viewed as a dynamic and evolving entity; content, emphasis, and duration of subject matter presented within a course title may be subject to modification for the sake of improving and/or up-dating the professional educational program.

Students are admitted as juniors for the fall term after the completion of two or more years of undergraduate work. The program extends over a period of two years and leads to the degree of Bachelor of Science in physical therapy.

The first year of study is designed to introduce the student to the relationships of normal human structure and function and to introduce basic concepts of abnormality. An attempt is made to integrate classroom material with beginning clinical experiences. During the first year the student will have opportunities to observe, evaluate, and treat patients in clinical facilities in Richmond and surrounding counties, on a part-time basis. A four week full-time clinical assignment is required between the junior and senior years. Students will be assigned between June and August to a facility in Virginia or in a surrounding state. The student will continue to develop skills in evaluating and treating patients under supervision of qualified clinical educators.

The second year concentrates on relating previous learning experiences to specific pathological conditions. The student learns to evaluate patient problems, plan, and carry out treatment programs through a problem solving approach. The student learns to consider

the psycho-social implications of disease as they affect the total patient care process. Principles of health care administration are presented and related to patient management.

During the academic year part-time clinical experiences will emphasize the problem-solving approach in learning. The student will apply advanced clinical evaluation and treatment procedures and learn to correlate specific medical problems with appropriate choices of evaluation and treatment procedures.

At the completion of the academic work, which at present extends from the end of August to the middle of March, the student will be assigned to two eight week full-time clinical affiliations in Virginia or another state. At the completion of these affiliations, students return to the campus for one week. During this week students are expected to relate clinical experiences and significant learnings as well as significant problems to the faculty within small group sessions. At completion of these sessions, students become eligible for state board licensure.

CURRICULUM

<i>Junior Year</i>	<i>Semester Hours</i>
PHT 301-302 Functional Anatomy	14.0
PHT 303 Microscopic Anatomy	2.0
ANA 305 Embryology	1.0
PHT 307-308 Functional Neuroanatomy	6.0
PHT 309 Physical Therapy Principles and Procedures I	1.0
PHT 310 Physical Therapy Principles and Procedures II	3.0
PHT 311-312 Physical Therapy Evaluation Procedures I	2.0
PHT 313-314 Clinical Science I	3.0
PHT 315-316 Clinical Education I	1.0
PHT 317 Clinical Education II	1.0
PIO 361 Introduction to Human Physiology	3.0
	37.0
<i>Senior Year</i>	
PHT 405-406 Professional Literature	1.5
PHT 407-408 Therapeutic Exercise	12.0
PHT 409-410 Physical Therapy Evaluation Procedures II	3.0
PHT 411-412 Clinical Science II	8.0
PHT 413-414 Clinical Education III	2.0
PHT 416 Physical Therapy Management	2.0
PHT 420 Clinical Education IV	4.0
	32.5

GRADING AND PROMOTIONS

The minimum passing grade for all required courses leading to the baccalaureate degree in

physical therapy is "C". A student who fails a test in a course may be re-examined by consent of the instructor. The grade after re-examination cannot be above a "D". All courses must be completed with a passing grade for the student to be eligible for promotion or graduation. Grade reports are given to students as each course is completed. Satisfactory completion of the previous semester's course work is a prerequisite to the next semester. All students are assigned a faculty advisor for two years and borderline students are counseled frequently.

Promotion is based on recommendation of the faculty. The student is expected to:

1. Maintain a grade point average of 2.0 or better.
2. Complete satisfactorily all noncredit courses.
3. Obtain a passing grade in all courses.
4. Complete clinical education requirements to the satisfaction of the clinical and academic faculty.
5. Demonstrate the personal characteristics listed under selection factors.
6. Pay all fees.

FINANCIAL ASSISTANCE

A limited amount of financial assistance is available to both junior and senior physical therapy students. The amount of assistance awarded the individual student is based on the availability of funds and the need shown by the student. MCV/VCU provides three types of student assistance: scholarships, loans, and campus employment.

For information on financial assistance, write: Financial Aid Officer, Medical College of Virginia, Virginia Commonwealth University, Box 244, MCV Station, Richmond, VA 23298.

HONORS AND AWARDS

Frederick E. Vultee Memorial Award. This award was first given in 1964 in memory of Frederick E. Vultee, M.D., who was medical director of the School of Physical Therapy from 1960 until his death in 1962. This award is made in recognition of superior clinical performance during the senior year. It is given to the student who demonstrates an outstanding sense of responsibility for his patients, his colleagues, his profession, and who demon-

strates exceptional potential for personal and professional growth. The award includes a certificate and a U.S. savings bond.

STATE LICENSURE AND REGISTRATION

Graduates are eligible for registration in the state of Virginia and throughout the United States and its territories. At the time of graduation the examination sponsored by the Virginia State Board of Medicine is made available to the graduating students.

FACULTY

Professors: Hirt (Chairman); Payton
Associate Professors: Jones; Lamb
Assistant Professors: Gudas; Hill; McDonald;
Newton; Personius; VanSant
Instructors: Booth; Hardy
Clinical Instructors: Adams; Breidenbaugh; Eberline; Keckler; Lisle; Murray; Seay

COURSES OF INSTRUCTION (PHT)

The Department of Physical Therapy has an integrated curriculum in which subject matter is taught in blocks of time which does not lend itself to identification by consistent lecture or laboratory hours per week. In lieu of this the hours are identified more realistically by total hours taught.

301-302 Functional Anatomy. Total LH-180; Total Lab H-100; SH-14.0. I, II. Planned specifically for the physical therapy student to develop a thorough understanding of those fundamental facts and principles that apply most directly to his future work. Particular emphasis is placed upon the anatomy of the musculoskeletal and neuromuscular systems. Abnormal functions, as encountered later during clinical work, are discussed and related to normal living structure and function. Students are required to dissect the human body.

303 Microscopic Anatomy. Total LH-40; SH-2.0. I. A study of the basic principles of living tissue. Emphasis is placed on structural and functional relationships with the needs of the physical therapist in mind.

307-308 Functional Neuroanatomy. Total LH-100; SH-6.0. I and II. A study of the basic structural and functional aspects of the human nervous system. Clinical phenomena are introduced for the purpose of promoting understanding of function and relating the subject to the practice of physical therapy.

309 Physical Therapy Principles and Procedures I. Total LH-12.5; Total Lab H-8; SH-1.0. I. Designed to orient the beginning physical therapy student to the hospital setting and to his future professional role. Instruction is given in safety procedures, transfer techniques, the medi-

cal record, vital signs, medical aseptic technique, and principles of bandaging.

310 Physical Therapy Principles and Procedures II. Total LH-28; Total Lab H-31; SH-3. II. A study of the theory and therapeutic application of massage, hydrotherapy, thermotherapy, ultraviolet, compression, and traction. Emphasis is on clinical application and problem solving.

311-312 Physical Therapy Evaluation Procedures I. Total LH-25; Lab H-30; SH 2.0. I and II. Designed to teach some of the basic measurement procedures used by the physical therapist in patient evaluation. These include measurement of the length and girth of body parts, joint range of motion, manual muscle testing, and postural analysis.

313-314 Clinical Science I. Total LH-30; Total Lab H-14; SH-3. I and II. This course presents the basic psychological components of patient care. The second portion is designed to acquaint the student with the principles of evaluation, goal setting, and program planning; to offer practical skills in functional training and an overview of the clinical picture of severely physically disabled patients.

315-316 Clinical Education I. Total CH-60; SH-1. I and II. In addition to lectures and discussion sessions concerning clinically related topics, junior students participate in supervised clinical experiences during the fall and spring semesters. These part-time clinical experiences provide the student with an opportunity to observe, evaluate, and treat patients in clinical facilities in the city of Richmond and surrounding counties.

317 Clinical Education II. Total CH-160; SH-1. During the summer, junior students are assigned to physical therapy clinics throughout Virginia and neighboring states for a period of four weeks between June and August. This full-time clinical experience provides the student with an opportunity to integrate and apply junior course work to the clinical setting under the supervision of a qualified clinical educator.

405-406 Professional Literature I and II. Total LH-30; SH-1.5. I and II. This course is designed to give the student the opportunity to pursue and present a topic of personal interest. The presentation may be in the form of a scientific paper, research, or a project of professional relevance.

407 Therapeutic Exercise. Total LH-150; Total Lab H-60. SH-12. I and II. Study of exercise as a therapeutic measure is approached through scientific principles acquired from the basic medical sciences. Included are the general principles of human development and tests and measurements, normal and abnormal sensorimotor development, and basic principles and techniques of facilitating responses desired in the performance of exercise.

409 Physical Therapy Evaluation Procedures II. Total LH-43; Total Lab H-25; SH-3.0. I. Basic physical principles related to electricity and electronics are reviewed. Lectures pertain to physical and physiological effects of the low frequency currents and their therapeutic indica-

tions and contraindications. In laboratory practice, particular emphasis is placed on diagnostic use of these electrical currents.

411-412 Clinical Science II. Total LH-119; Total Lab H-7; SH-8. I and II. This course is designed to integrate the pathology of medical conditions with physical therapy procedures. Topics include orthopedic problems, respiratory disorders, neurological conditions, burns, transplants, geriatrics, prosthetics, and orthotics.

413-414 Clinical Education III. Total CH-66; SH-2. This course is divided into three parts: (1) Part-time supervised clinical experiences enable the student to apply advanced clinical evaluation and treatment procedures. (2) Seminars provide the student with an opportunity to problem solve clinically related topics. (3) Observational experiences provide the student with an opportunity to pursue clinically related interests independently.

416 Physical Therapy Management. Total LH- 20; SH-2.0 II. Lectures and discussions will provide information concerning the physical therapist's responsibility in the management of a physical therapy department. Areas of discussion include ethical principles, financial considerations, concepts of supervision, principles of hospital administration, and socio-economic aspects of health care services.

420-21 Clinical Education IV. Total CH-640; SH-4. This course consists of two eight-week full-time clinical affiliations. Each student is assigned to two different clinical settings which provide an opportunity for the student to gradually assume increasing responsibility for the total care of his patients.

MASTER OF SCIENCE IN PHYSICAL THERAPY

The current graduate program in physical therapy, which was initiated in 1968 with one student, began to expand in 1971 with the appointment of a full-time director. Enrollment currently varies from 12 to 18 students in each class.

PHILOSOPHY AND OBJECTIVES

In a world where knowledge is doubling every few years, continuing education has become a way of life for most professional people. Many of yesterday's truths have been disproven and tomorrow's truths are being generated in today's laboratories and clinics. Physical therapy, an integral part of the health care system, is involved both broadly and deeply in this atmosphere of change and growth. Expanding knowledge and skills in the basic and clinical sciences and changes in the needs and mandates of society have placed new demands and created new responsibilities for physical therapists.

These changes have not only altered the existing basic professional preparation programs but have also stimulated the development of a variety of new and innovative postgraduate and continuing education programs. The master's degree program is designed to meet the needs of many practicing physical therapists who want to increase their skills and competencies in specialized aspects of their profession. The guiding principle of this program is flexibility, which provides for adaptation to the specific interests and goals of the individual student. The student may elect courses from most of the graduate departments of both the MCV Campus and the Academic Campus of VCU (e.g. anatomy, physiology, health administration, psychology, education, etc.) in addition to courses from the graduate program of the Department of Physical Therapy in order to build a meaningful, integrated, individualized program of studies.

Prospective students are encouraged to have their goals clearly defined before they start a graduate program. Typical goals might include specialization as a clinician, educator, researcher, consultant, or administrator with expertise in a basic science or in a clinical specialty.

Areas of specialization have been developed in therapeutic kinesiology, teaching therapeutic exercise, general kinesiology and biomechanics, pediatrics, orthopedic rehabilitation, academic and clinical education, and organization and delivery of physical therapy services.

FUTURE PLANS, FACILITIES

In addition to the usual classroom facilities, the department is developing a kinesiological research laboratory with equipment for both bioelectrical and photographic studies. Graduate students interested in education do their teaching practicum in the undergraduate classes and laboratories and in the clinical departments of MCV Hospitals. A clinical specialty practicum may be individually arranged in appropriate facilities in or out of Richmond.

Present courses and facilities will be expanded as enrollment and student interests indicate a need.

ADMISSION REQUIREMENTS

1. Students must meet all general admission requirements specified in the graduate admissions section of the School of Allied Health Professions section.
2. Graduation from a physical therapy program approved by the American Physical Therapy Association (or, for foreign students, its equivalent as determined by the Physical Therapy Graduate Program Admissions Committee).

Requirements for the Master of Science Degree

1. All full-time graduate students are expected to register for a minimum of 12 semester hour credits per semester, including research.
2. The grading system shall be that indicated on page 28 with the following additions or alterations.
 - A. The grade for research shall be "P" or "F."
 - B. No student may take the comprehensive examination if his overall quality point average is less than 2.5 or if his quality point average for courses within his major department is below 3.0.
 - C. Students making a grade of "D" or "F", or who fail to pass written or oral comprehensive examinations, or thesis, or final examinations require a recommendation by their graduate committee and approval of the dean to continue in their programs.
3. A minimum of 24 credit hours, exclusive of research credits, is required for the Master of Science degree. Not more than 12 credit hours may be transferred from another institution and applied to the degree. A time limit of five calendar years, beginning at the time of first registration, is placed on work to be credited toward the Master of Science degree.
4. Each student conducts a research study under the guidance of his advisor. This study is reported in a thesis, prepared in acceptable form and style. On approval of the thesis by the advisor, the student submits five or more copies as required to his graduate committee.
5. The thesis is examined by the student's graduate committee members acting as moderators. The dean may appoint one additional moderator from the faculty of the MCV Campus or some other institution. An external moderator is selected by reason of his special knowledge and distinction in the field of the candidate's work.
6. Each moderator shall receive a copy of the candidate's thesis and shall decide on its acceptability. The moderators may confer with each other before making their decision. Each moderator shall report to the dean through the student's advisor that the thesis is acceptable. The thesis is approved only if the moderators accept it unanimously.
7. On approval of the thesis, the student appears for a final oral examination by the advisor and the thesis moderators. The final examination shall be open to the faculty and its time and place—together with the candidate's name, department, and title of thesis—shall be announced at least seven days in advance.
8. A favorable vote of the graduate committee with no more than one negative vote shall be required to pass the oral examination. All members of the committee and the dean or a faculty member representing him will attend the examination and will cast a vote.
9. Five or more copies of the thesis (as required) prepared according to standards approved by the school's graduate committee, shall be sent to the student's graduate committee in final form three weeks or more before the date of graduation. (Graduation dates are in May, August, and December.) These copies are to be submitted in temporary binders. Following acceptance of the thesis and passing of the final examination, it shall be the responsibility of the candidate to have five copies of the thesis suitably bound.
10. The dean will recommend the granting of a degree only after all requirements have been fulfilled, including payment of all fees to the university, and after submission of the bound copies of the thesis. Degrees are not granted in *absen-*

tia unless specific written request is made to the dean and permission granted by him.

TRAINEESHIPS AND ASSISTANTSHIPS

In the past, the department has been able to offer a limited number of federal traineeships (stipend, tuition, and fees) and clinical assistantships (salary). These will continue to be offered as funds allow. Interested students should make inquiries to the program director.

FACULTY

Professors: Hirt (Chairman); Payton
Associate Professors: Jones; Lamb
Assistant Professors: Gudas; Hill; McDonald;
Newton; Personius; VanSant
Instructor: Booth; Hardy
Clinical Instructors: Adams; Breidenbaugh; Eberline; Keckler; Lisle; Murray; Seay

COURSES OF INSTRUCTION (PHT)

GTU 610 Introduction to Gerontology. See *VCU Graduate Studies Bulletin*.

AHP 530 Special Topics in Allied Health. See page 121.

AHP 573 Teaching in Health Professional Schools. See page 121.

AHP 574 Allied Health Education-Practicum. See page 122.

AHP 581 Administration in the Allied Health Professions. See page 122.

AHP 582 Supervision in the Allied Health Professions. See page 122.

AHP 583 Supervisory and Administrative Practicum in Allied Health Clinics. See page 122.

501 Electromyographic Kinesiology. LH-2; Lab H-2; SH-3. I. The emphasis of this course is on the theoretical and practical aspects of the use of electromyography as a tool to observe human movement, normal and pathologic. The student will have the opportunity to consider the electronic, physiologic, and anatomic principles related to the appropriate selection of electromyographic techniques for the study of movement. Particular emphasis will be placed on data reduction methods and interpretation of data. The student will develop beginning skills in performing the techniques necessary for recording parameters involved in movement.

502 Biomechanics. LH-2; Lab H-2; SH-3. II. This course concerns the study of the effects of forces upon normal and pathologic human form and movement. Classroom

and laboratory sessions are designed to guide the student in the use of the measurement techniques necessary to form a detailed picture of moving man viewed as a mechanical system. Particular emphasis is placed on the techniques of modeling, cinematography, and electrogoniometry.

505 Foundations for Pathokinesiology. LH-3; SH-3. I. A study of the principles that form a foundation for pathokinesiology and therapeutic kinesiology. Integration of principles of human development and motor behavior with emphasis on abnormal motor behavior and its remediation will be presented.

506 Therapeutic Kinesiology. LH-3; CL H-3; SH-4. II. PR: PHT 505. A study of motor behavior in both normal and pathological conditions. Reading and discussion of the basic literature of current neurophysiological approaches to therapeutic exercise and an integration of these concepts into a comprehensive model of human movement.

520 Clinical Specialty Practicum. CH-60; SH-1 to 9. I, II, S. CR: PHT 530. PR: appropriate courses in sciences basic to area of specialization. One semester hour's credit per 60 clinical hours. Concentrated clinical experience in the student's chosen area of specialization under the guidance of an approved preceptor.

530 Clinical Specialty Seminar. SH-1 to 3. I, II, S. CR: PHT 520. Individual paper dealing in depth with the history, current status, and problems in a given area of clinical specialization. It is anticipated that the student will identify several potential thesis topics in the course of preparing this paper.

540 Special Topics in Physical Therapy. SH-1 to 4. I, II, S. Guided independent study of specific topics not discussed in other courses or discussed in less detail in other courses. Student's topic of desired study must be identified and approved prior to enrollment.

590 Physical Therapy Seminar. LH-1; SH-1. I and II. Reports on current problems and issues in the field of physical therapy. May be repeated for a maximum of four credits; required for two semesters.

591 Current Problems in Physical Therapy. LH-2; SH-2. I. Readings, discussions, and reports on the current status of the profession, changing parameters of clinical practice, and changes in the organization and delivery of direct and indirect patient care. A model for professional development is presented. Required of all students unless excused by the faculty.

690 Research in Physical Therapy. SH-1 to 15. I, II, S. Research in preparation for the master's degree thesis.

Department of Health Administration

Education in health administration at the Medical College of Virginia began in 1949 with the establishment of a graduate curriculum in hospital administration. Early gradu-

ates received a certificate; the M.H.A. degree was awarded beginning in 1955.

These early efforts grew and developed into the Department of Health Administration which was established in 1972. The department now includes three major programs: the graduate program in health services administration; the undergraduate program in long-term and health care management; and the program of continuing education. In addition to these educational programs, each of which is described in subsequent sections, the Department of Health Administration includes a growing research program and is involved in a wide range of public service activities.

DEPARTMENTAL FUNCTIONS AND GOALS

The department's principal function is to provide high-quality education leading to careers in the administration of health care institutions, agencies, and systems. Corollary functions are to provide technical assistance and other services for community organizations and to conduct health services and health policy research.

To provide clear direction in the performance of these functions, the departmental faculty has adopted seven long-range (3-5 year) goals. These are:

- Provide an increasingly stimulating and challenging environment for our students, faculty, and staff and thereby enhance the quality of our efforts in education, research, and public service.
- Provide high-quality education in health administration for each of the department's students.
- Make a positive contribution to the education of students in other disciplines at VCU.
- Develop, maintain, and improve a departmental research program aimed at producing new knowledge that will serve to enhance the planning, organization, and management of health services.
- Sponsor high-quality continuing education and public service activities aimed at identified needs in the health industry.
- Secure and maintain the administrative support and resources (including time)

needed by the faculty in order to accomplish departmental goals and objectives.

- Achieve wider recognition for departmental efforts and progress in education, research, and public service.

Each year these long-range goals are evaluated and up-dated by the departmental faculty with the help of alumni, students, and preceptors. This annual process also generates the department's short-range (fiscal year) objectives and plans in support of the long-range goals.

FACILITIES

The Department of Health Administration's graduate program is located in Randolph-Minor Annex, an historic building located on the corner of College and Broad Streets on the MCV Campus. The department's undergraduate program is located on the fifth floor of the Nursing Education Building.

The Medical College of Virginia Hospitals, one of the largest teaching hospitals in the nation, and MCV's other clinical facilities are readily accessible to the department's students and faculty. In addition, the department has clinical affiliations and close working relationships with a large number of health care organizations and agencies in Virginia and throughout the eastern part of the United States. These organizations and agencies are used extensively as clinical facilities in the department's educational programs.

ENDOWED AWARDS, LECTURESHIPS, AND PROFESSORSHIPS

The Robert Hudgens Memorial Award was established and endowed by the department's alumni association in cooperation with the American College of Hospital Administrators (ACHA). The Hudgens Award is presented annually to the person selected by a special ACHA committee as the most outstanding young hospital administrator in the United States. It is presented at the ACHA's Annual Congress each year.

The Charles P. Cardwell Memorial Lectureship Series was inaugurated and endowed by the department's alumni. It is held in conjunction with the ACHA's Annual Congress. The series is coordinated by a standing committee of the department's alumni association.

Endowed professorships have been established in honor of individuals who have played vital roles in the development of the Medical College of Virginia. The **Arthur Graham Glasgow Professorship of Hospital Administration** was established in 1957 in honor of Dr. Glasgow who had shown such a vital interest in hospitals. The Glasgow Professorship is presently held by Dr. Lawrence Prybil, chairman of the Department of Health Administration.

GRADUATE PROGRAM IN HEALTH SERVICES ADMINISTRATION PURPOSE

The graduate program in health services administration is designed to prepare individuals for entry-level administrative positions in complex health institutions and systems, with particular emphasis upon hospitals. Concurrently, it is intended to provide the graduate with a solid foundation for executive career development in the field of health services administration. The program's educational goals and content are based upon the premise that most students who select this curriculum aspire to become the chief executive officer of a health care organization at some point in their careers. A comprehensive listing of these goals is set forth in a separate document, "Educational Goals of MCV/VCU's Graduate Program in Health Services Administration."

The graduate program in health services administration is designed primarily for full-time students. A limited number of part-time students may be accepted into the program. The part-time program is intended primarily for persons who are already employed in the health industry. The admissions standards and degree requirements for part-time degree candidates are the same as those for full-time degree candidates.

The graduate program was initially accredited in 1955, one of the first programs in the United States to achieve that status. It has maintained this status ever since and is fully accredited by the Accrediting Commission on Education for Health Services Administration.

ADMISSION REQUIREMENTS

Applications are encouraged from individuals who have earned undergraduate and grad-

uate degrees in *any discipline or field of study*. However, to be eligible for admission, prior course work must include at least one college-level semester course in economics and one upper-division semester course in business statistics (or the equivalent). In addition, a working knowledge of basic, college-level algebra is necessary preparation for the graduate program's courses in systems analysis and evaluation.

To be considered for admission into the graduate program in full-status, the applicant must meet the following minimum qualifications: (1) present evidence of personal achievement, scholarship, intellectual ability, and professional promise; (2) hold a baccalaureate or graduate degree from a college or university which is fully accredited by the Association of American Universities or by a regional accrediting agency; (3) have an overall grade-point average of 2.75 or higher on a four-point scale in his undergraduate work or provide evidence of high achievement in a substantial amount of graduate-level coursework; and (4) attain a satisfactory score (at least 50th percentile) on the Graduate Record Examination Aptitude Test or the Graduate Management Aptitude Test.

Applicants who have completed the prerequisite coursework and meet the other requirements may be admitted into the graduate program in *full status*. Students in full status are candidates for the M.H.A. degree. Full status is maintained so long as the student achieves a grade-point average of 3.0 in all course work each semester.

If an applicant presents qualifications that approximate the admissions requirements and standards, that applicant may (at the discretion of the faculty) be admitted into the graduate program on *conditional status*. Advancement to full status may be approved by the faculty when the student has satisfactorily completed one or more semesters of graduate studies. Students admitted on conditional status may be dismissed from the graduate program at the end of their first semester of graduate studies if they have not earned at least a 3.0 grade-point average. Complete information regarding academic requirements and standards is set forth in "Academic Policies and Regulations for the Graduate Program in Health Services Administration."

Virginia Commonwealth University is a state-aided institution, and preference is given to applicants with equal qualifications who are residents of Virginia. There is no quota established, however, for Virginia versus out-of-state students. Persons from countries other than the United States may apply for admission to the department's graduate program. Foreign applicants must meet all the regular admission requirements, take the Test of English as a Foreign Language, and submit evidence of financial responsibility by indicating the source of funds they will require while at Virginia Commonwealth University (see page 18).

Requests for further information regarding admission requirements, standards, and procedures should be sent to: Admissions Office, Department of Health Administration, Medical College of Virginia, Virginia Commonwealth University, Box 203, MCV Station, Richmond, VA 23298.

TRANSFER CREDIT

Students who have earned graduate credit before entering the Department of Health Administration's graduate program may be permitted, at the discretion of the faculty, to transfer a maximum of nine semester hours of credit to count toward the M.H.A. degree. Transfer credit may be allowed when, in the judgment of the faculty, the applicant has satisfactorily completed course work equivalent to courses in the graduate curriculum offered in this department.

CURRICULUM (1979-80)

Students who begin their graduate studies in the Department of Health Administration in 1979 must complete a total of 56 semester hours to qualify for the M.H.A. degree. For full-time students, these requirements are ordinarily completed during a 23-month period that includes four semesters on campus and a nine-month administrative residency. These students complete 50 semester hours on campus and six semester hours during the residency phase of the graduate program.

The curriculum includes a series of course sequences that are comprised of foundation courses, required courses, elective courses, and, finally, two "capstone" courses: HAD 648, Seminar in Health Services Administra-

tion, and HAD 701-702, a six-hour block of course work that is taken during the administrative residency phase of the graduate program.

The student's course work is likely to include one or more foundation courses because students must have proficiency in financial accounting and management theory equivalent to that provided by BUS 607 and BUS 640 before entering subsequent required courses. Depending upon educational preparation and experience, entering students may be required by their faculty advisors to take one or both of these foundation courses early in their graduate program of studies.

Required course work ordinarily comprises 43 semester hours; however, depending on the student's educational background and experience, required courses may be waived with the joint approval of the student's faculty advisor and the course instructor.

Elective courses are selected on an individual basis by the student and his faculty advisor according to the student's career interests and educational needs. In addition to the elective courses listed below, numerous courses are available in other schools and departments of the university.

The M.H.A. curriculum for 1979-80 includes the following courses:

First Year: Summer Session		Semester Hours
<i>Required Courses</i>		
HAD 602	Health Care Organization and Services	4
HAD 609	Health Systems Analysis and Evaluation I	3
	Required Hours	7
<i>Foundation Course</i>		
BUS 607	Financial Accounting	3
<i>Some Elective Courses</i>		
HCM 523	Psychological Aspects of Illness and Disability	3
BUS 608	Managerial Accounting	3
BUS 610	Managerial Economics	3
BUS 620	Financial Concepts of Management	3
First Year: Fall Semester		
<i>Required Courses</i>		
HAD 603	Structure and Functions of Health Institutions (HAD 602 or equivalent is a prerequisite)	3
HAD 604	Health Economics	3
HAD 606	Financial Management in Health Institutions (BUS 607 or equivalent is a prerequisite)	3

HAD 610	Health Systems Analysis and Evaluation II (HAD 609 or equivalent is a prerequisite)	3
	Required Hours	12

Foundation Course

BUS 640	Management Theory and Practice .	3
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Some Elective Courses

HAD 668	Independent Study in Hospital and Health Administrationvariable	
PAD 609	Financial Management and Budgeting in Government	3
BUS 621	Advanced Financial Management..	3
BUS 633	Problems in Labor Relations	3

First Year: Spring Semester

Required Courses

HAD 607	Advanced Financial Management in Health Institutions (HAD 606 is a prerequisite).....	3
HAD 611	Hospital and Medical Law	3
HAD 614	Health Planning and Policy (HAD 604 or equivalent is a prerequisite).....	3
HAD 647	Administration in Health Institutions (BUS 640 or equivalent is a prerequisite)	3
	Required Hours	12

Some Elective Courses

HAD 652	Comparative Health Systems	3
HAD 668	Independent Study in Hospital and Health Administration .....variable	
HAD 698	Thesis I	3
SOC 699	Professionals in Complex Organizations	3
NUR 620	Methods of Research.....	3
PAD 625	Public Policy Formulation and Implementation	3
BUS 622	Investment Policies.....	3
BUS 634	Advanced Labor Relations.....	3
BUS 671	Advanced Marketing Strategy.....	3
GTU 610	Introduction to Gerontology	3

Second Year: Summer Session

Required Courses

HAD 648	Seminar in Health Services Administration	2
HAD 658	Personnel and Labor Relations in Health Institutions	4
	Required Hours	6

Some Elective Courses

HAD 608	Seminar in Health Care Finance HAD 606 and HAD 607 are prerequisites)	2
HAD 616	Seminar in Applied Health Planning HAD 614 is a prerequisite).....	2
HAD 617	Health Facility Design and Construction (HAD 614 is a prerequisite).....	2
HAD 662	Health Care Politics and Policy Analysis	2

HAD 668	Independent Study in Hospital and Health Administration .....variable	
HAD 699	Thesis II.....	2

Second Year: Fall Semester

Required Course

HAD 701	Problems and Issues in Health Services Administration I	3
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Second Year: Spring Semester

Required Course

HAD 702	Problems and Issues in Health Services Administration II	3
	Required hours	6

CURRICULUM (1980-81)

The faculty has approved certain modifications to the graduate curriculum which will go into effect during the 1980-81 academic year. These changes are moderate, but will provide a somewhat more flexible graduate curriculum. Students who enter the graduate program in 1980 will still be required to complete a total of 56 semester hours (including transfer credit, if any) to qualify for the Master of Health Administration (M.H.A.) degree. However, full-time students ordinarily will begin their graduate studies in the fall (rather than the summer) semester, and will have more opportunity than at present to vary the pace and length of their graduate program. Beginning in 1980-81, the curriculum will include 37 hours of required course work. In addition to these core requirements, each student will develop an area of concentration or "specialization" by selecting elective courses within the Department of Health Administration and other university departments. Each student will devote 12 or more semester hours to the area of concentration. The areas of concentration will represent certain major areas of interest and application within the field of health services administration. These will include *management in hospitals and hospital systems, management in long-term care institutions and systems, and planning*, with particular emphasis upon planning in the corporate (institution or system) environment. It will be possible for students to develop certain other areas of concentration by working with their faculty advisors and the director of the graduate program. Further information regarding the 1980-81 curriculum can be obtained by writing to: Admissions Office, Department of Health Administration, Medical

College of Virginia, Virginia Commonwealth University, Box 203, MCV Station, Richmond, VA 23298.

ADMINISTRATIVE RESIDENCY

Purpose of the Residency. The administrative residency is an integral part of the Medical College of Virginia's graduate program in health services administration. Its basic purpose is to provide students opportunities to apply and further develop their administrative knowledge and skills through a period of applied experience in an operational setting. The administrative residency is directly supervised by experienced executives who serve as the students' preceptors. Overall policies and guidance for the administrative residency are established by the Department of Health Administration.

Appointment to the Residency. The student becomes eligible for entrance into the administrative residency after completing specified course work and achieving an overall grade-point average of 3.0. Students on academic probation because of their performance during their final on-campus semester prior to their residency may, at the discretion of the faculty, be prevented from entering their residency even though their overall grade-point average is 3.0 or higher.

In addition to satisfactory academic performance, the student must, in the judgment of the faculty, give evidence of sufficient maturity to constitute readiness for a clinical experience. The student is, of course, expected to demonstrate maturity and meet high standards of professional conduct throughout the educational process.

The director of the graduate program in health services administration has the responsibility to make residency assignments. In making these assignments, the director will consider the preferences of the students, the preferences of the preceptors, and the recommendations of faculty advisors.

Graduate students will occasionally have educational interests and needs that may not be met fully through serving their residency in one of the graduate program's approved residency locations. In these situations, the faculty will exercise reasonable efforts to develop a special residency situation for the student. The student may be expected to participate actively in these efforts.

Length of the Residency. The length of the administrative The administrative residency ordinarily is not less than nine months in length, and usually is served at the end of the student's educational program. However, the residency requirement can be modified or waived by the faculty if, in its judgement, a student presents clear evidence of unusual experience and accomplishments. Also, a student's residency requirement may be served prior to completion of the on-campus academic requirements if the faculty concludes that this approach would best serve the student's educational interests and needs.

On-campus Commitments During the Residency. During the residency phase of the graduate program, the student must attend regularly scheduled, on-campus seminars. During these seminars the student will participate actively in educational activities associated with course work taken during the residency period.

Residency Policies and Procedures. A complete statement of academic policies and procedures relating to the administrative residency phase of the graduate program is set forth in "Administrative Residency Policies and Procedures," Section VI of the *Academic Policies and Regulations for the Graduate Program in Health Services Administration*.

REQUIREMENTS FOR GRADUATION

To qualify for the M.H.A. degree, the student must meet the following requirements: (1) achieve an overall grade-point average of 3.0 on a four-point scale for all graduate curriculum course work; (2) satisfactorily complete all requirements of the administrative residency including required course work taken during this period; (3) pass a comprehensive examination administered near the end of the student's graduate program; and (4) in the judgment of the faculty, demonstrate sufficient maturity, and development to constitute readiness to enter the profession of health administration.

Degrees are usually conferred at commencement exercises of the university in May.

PROGRAM IN LONG TERM AND HEALTH CARE MANAGEMENT PURPOSES

The program in long term and health care management has three general purposes. Prin-

cipally, to meet management needs in nursing homes and other long-term care facilities. This is being achieved by providing a B.S. degree in health care management with a major in long-term care. Secondly, to meet growing needs in the health industry for functional specialists in selected areas. This will be met by enabling undergraduate students in selected disciplines such as industrial engineering to earn a minor in health care. Thirdly, to provide education in health care organization and management to undergraduate students in other professions. This is being addressed by encouraging these students to take available courses and, when appropriate, by developing new courses to meet special needs and requirements.

The B.S. degree in health care management with a major in long-term care is a two-year, upper-division curriculum offered by the Department of Health Administration, School of Allied Health Professions, in cooperation with the School of Business. Applicants are accepted into this program after completing a minimum of 60 semester hours of undergraduate work and meeting established prerequisites and qualifications.

The B.S. degree program is designed to prepare individuals for entry-level management positions in nursing homes and other long-term care facilities. Concurrently, it is intended to provide the student with a solid foundation both for career development in long-term care management and for graduate education, if he chooses to pursue an advanced degree later on. The B.S. degree program's educational goals and content are based upon the premise that most students who select this curriculum aspire to become the administrator of a long-term care facility at some point in their career. A listing of these goals is set forth in a separate document, "The Educational Goals of MCV/VCU's Program in Long-Term and Health Care Management."

Most candidates for the B.S. degree in health care management will be full-time students. A limited number of part-time students will be accepted. The part-time degree program is intended primarily for persons who are already employed in the health industry. The admissions standards and degree requirements for part-time degree candidates are the same as those for full-time degree candidates.

Students who meet specified prerequisites and standards are accepted into the program on a transfer basis from other schools within Virginia Commonwealth University and from other accredited colleges and universities including community colleges.

ADMISSION REQUIREMENTS

Students must have completed a minimum of 60 semester hours of undergraduate work and attained an overall GPA of 2.5 on a four-point scale to be considered for admission. Course work must include two college-level semester courses in accounting, one college-level semester course in economics, and an appropriate balance of liberal arts courses. Students who do not fully meet these criteria and/or prerequisites may be accepted into the program on conditional status if recommended by the faculty and approved by the director of the program in long-term and health care management.

Further information concerning admissions can be obtained by writing to: Admissions Office, Department of Health Administration, Medical College of Virginia, Virginia Commonwealth University, Box 203, MCV Station, Richmond, VA 23298.

CURRICULUM

Students seeking the B.S. degree in health care management with a major in long-term care must satisfactorily complete a total of 36 semester hours of required courses in the Department of Health Administration and the Gerontology Program, 18 semester hours of required courses in the School of Business, and sufficient elective courses to achieve the minimum of 126 hours required for graduation.

Degree candidates in the B.S. program must satisfactorily complete the following courses:

		Semester Hours
<i>Junior Year, Fall Semester</i>		
HCM 302	Health Care Services I.....	3
HCM 323	Psychological Aspects of Illness and Disability	3
<i>Junior Year, Spring Semester</i>		
HCM 303	Health Care Services II.....	3
GTY 410	Introduction to Gerontology.....	3
<i>Junior Year, Summer Session</i>		
HCM 400	Health Care Management Field Work.....	3

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Senior Year, Fall Semester

HCM 306	Legal and Regulatory Controls in the Health Industry (PR: BUS 323).....	3
HCM 404	Fiscal Management in Health Care Facilities (PR: BUS 311 and 401).....	3
HCM 406	Personnel Management in Health Care Facilities (PR: BUS 331)....	3

Senior Year, Spring Semester

HCM 405	Seminar in Long-Term Care Finance (PR: HCM 404)	3
HCM 407	Planning and Evaluation of Long-Term Care Services (PR: BUS 301).....	3
HCM 408	Seminar in Long-Term Care Management (PR: HCM 302, 303, and 400)	3
HCM 502	Management in Health Care Facilities (PR: BUS 321).....	3
	Total required hours in health care management and gerontology.....	36

Students in this program must also satisfactorily complete at least 18 semester hours in the School of Business. These required courses are:

BUS 301	Business Statistics.....	3
BUS 311	Financial Management.....	3
BUS 321	Organizations and Management	3
BUS 323	Legal Environment of Business	3
BUS 331	Personnel Management	3
BUS 401	Cost Accounting.....	3
	Total required hours in School of Business.....	18

The remainder of the 126 hours required for the B.S. degree are satisfied by taking elective courses. Numerous courses are available to meet specialized student needs and interests. In all instances, elective courses are selected on an individual basis by the student and his faculty advisor according to the student's particular career interests and educational needs.

HCM 399 independent Study in Long-Term Care Management, is available every semester as an elective offering in the Department of Hospital and Health Administration. It is utilized when the individual student and the faculty feel that directed study would be more valuable and appropriate than other available elective offerings.

REQUIREMENTS FOR GRADUATION

To qualify for the B.S. degree in health care management with a major in long-term care, the student must meet the following require-

ments: achieve a grade point average of 2.5 on a 4.0 scale for all course work while enrolled in the program; satisfactorily complete all requirements of the field work (HCM 400); and in the judgement of the faculty, demonstrate sufficient maturity and development to constitute readiness to enter the field of long-term care management.

UNDERGRADUATE MINOR IN HEALTH CARE ORGANIZATION

An important purpose of the undergraduate program is to meet growing needs for functional specialists in the health industry by encouraging students in selected disciplines to earn a minor in health care. The intent of this series of courses is to provide students with knowledge, skills, and experiences that will complement instruction in their major discipline and enhance their capability to apply this discipline effectively in health care organizations and agencies.

During the 1979-1980 academic year, a minor in health care organization will be available for students working toward a B.S. degree in accounting in Virginia Commonwealth University's School of Business and for students working toward a B.S. degree in industrial engineering in Virginia Polytechnic Institute and State University's School of Engineering.

Students working toward a minor in health care organization will ordinarily take four of the following courses:

HCM 306	Legal and Regulatory Controls in the Health Industry	3
HCM 404	Fiscal Management of Health Care Facilities	3
HCM 406	Personnel Management in Health Care Facilities.....	3
HCM 500	Hospital and Medical Care Organization.....	3
HCM 502	Management in Health Care Facilities	3

ACADEMIC POLICIES AND REGULATIONS

Academic policies and regulations for the graduate program in health services administration and the program in long term and health care management are set forth in separate documents published by the Department of Health Administration. These departmental documents, as well as publications that

provide university-wide policies and regulations, may be obtained by the applicant at the time of the interview.

PROGRAM OF CONTINUING EDUCATION

The Department of Health Administration's involvement in continuing education began in the early 1970's with the assistance of a grant from the W. K. Kellogg Foundation that included continuing education as a principal component. The basic purpose of the department's program of continuing education is to provide educational services for persons who have administrative responsibilities in hospitals, medical centers, multi-unit systems, nursing homes, and other health care organizations and agencies. During 1977-1978, the department sponsored or co-sponsored 31 continuing education conferences, seminars, and institutes which served over 1,500 individuals and provided over 12,000 contact hours of instruction to these participants. The departmental faculty is committed to continuing education as a fundamental responsibility of the department.

FACULTY

Professors: Prybil (Chairman); Barker; Cullen; Norville
 Adjunct Professor: Wiecking
 Associate Professor: Mullins (Associate Chairman)
 Assistant Professors: Breindel; Carter; Hai; Larson; Modrow; Shukla
 Adjunct Assistant Professors: Ahr; Angel
 Adjunct Instructor: Gump
 Adjunct Lecturers: Cauble; Scott

COURSES OF INSTRUCTION

Undergraduate—Health Care Management (HCM)

302-303 Health Care Services: I and II. LH-6; SH-6. I and II. Examines the structure and function of health care organizations with emphasis on long-term care facilities. Examines the role and responsibilities of health care professions and occupations in these organizations. Considers the organizational characteristics of the health care industry.

306 Legal and Regulatory Controls in the Health Industry. LH-3; SH-3. II. PR: legal environment. Explores the nature of governmental involvement and that of various non-governmental agencies in health care delivery through legislation, regulation, and financial controls. Examines the types of controls and how they came into being; how controls are administered; sanctions involved; and the impact of controls in the health industry.

323/523 Psychological Aspects of Illness and Disability. LH-3; SH-3. I. PR: general psychology. An introduction to psychological effects of illness and disability; behavioral reactions, patient and societal attitudes; psychosomatic illness; psychological factors in treatment and care.

400 Health Care Management Field Work. SH-3. S. Readiness determined by faculty. Required of all senior majors in health care management. Assigned work under supervision in a health care facility or related institutions for four days a week. One day a week in seminars with assigned reports and problem-oriented discussions.

404 Fiscal Management in Health Care Facilities. LH-3; SH-3. I. PR: basic accounting, cost accounting, principles of finance. The application of cost accounting to a health care facility; techniques of budgeting and costs controls; use of fiscal data in planning, decisions, and evaluation of care.

405 Seminar in Long-Term Care Finance. LH-3; SH-3. II. PR: HCM 404. The application of previously taught financial concepts, tools, and techniques to the financial management of nursing homes and other long-term care facilities.

406 Personnel Management in Health Care Facilities. LH-3; SH-3. I. PR: personnel management. Focuses on the major elements of personnel management and labor relations that characterize the health care facility. Includes analyses of employment practices, education and training, health and safety programs, and employee relations with emphasis on problems unique to health care facilities.

407 Planning and Evaluation of Long-Term Care Services. LH-3; SH-3. II. PR: statistics. Provides the prospective long-term care facility manager with requisite knowledge and understanding of the program planning process and the facility planning and construction process. Also deals with relevant planning laws and regulations as well as the community health planning process.

408 Seminar in Long-Term Care Management. LH-3; SH-3. I and II. PR: HCM 302, 303, and 400. Required for all seniors majoring in health care management. Integrates and synthesizes the course content gained in previous course work and field experience. Emphasizes the professional role and responsibilities of the long-term care administrator in meeting the health and social needs of patients and the community.

500 Hospital and Medical Care Organization. LH-3; SH-3. I and II. Intended for students seeking degrees in disciplines other than health care administration and for special students who wish to learn about the health industry and health care organizations. Provides an overview of the structure and functions of the health industry. Examines the organization and operations of major health care organizations with particular emphasis on hospitals.

502 Management in Health Care Facilities. LH-3; SH-3. II. PR: fundamentals of management. Study of recent developments in management theory and practice to develop a foundation of human, technical, and conceptual skills necessary for successful performance as a health

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care manager. The management process is examined with the focus of all course activities being management in the health facility.

See Virginia Commonwealth University *Undergraduate Studies Bulletin* for descriptions of the following courses: BUS 301 Business Statistics, BUS 311, Financial Management, BUS 321 Organization and Management, BUS 323 Legal Environment of Business, BUS 331 Personnel Management, and BUS 401 Cost Accounting.

Graduate—Health Services Administration (HAD)

602–603 Health Care Organization and Services, and Structure and Functions of Health Institutions. LH–6; SH–6. S and I. Examines the structure and functions of the American health care industry; examines the concepts and processes of health and illness; examines the institutional and individual providers of health services; and examines the organization, function, and administration of hospitals, medical centers, and other major forms of health care institutions.

604 Health Economics. LH–3; SH–3. I and II. Develops an understanding of: (1) economics as a managerial tool in making choices or decisions that will provide for an optimum allocation of limited health care resources; and, (2) economics as a way of thinking about and approaching issues of public policy in financing and organizing health and medical services. Individual research on crucial or controversial economic issues in the health field.

606 Financial Management in Health Institutions LH–3; SH–3. I. PR: managerial accounting. A theoretical and practical study of organization and functions of health care financial administration. Emphases are on institutional fiscal policies, accounting concepts and practices, internal and external controls, financial statistical reporting, and the use of financial data as management tools.

607 Advanced Financial Management in Health Institutions. LH–3; SH–3. II. PR: HAD 606. Advanced practices of health care financial management. Emphasis on techniques to aid in financial decision making. Areas of investigation and study include analysis of financial statements, cost allocations, reimbursements, rate setting, budgeting, and capital financing.

608 Seminar in Health Care Finance. LH–3; SH–3. S. PR: HAD 607. Advanced studies of financial issues and the application of analytic tools in case studies and exercises. Designed to enhance and strengthen the knowledge and skills provided in the graduate program's foundation and required courses in accounting and finance.

609–610 Health Systems and Evaluation I and II. LH6; SH6. PR: upper division course in business statistics. This is a two course sequence required for M.H.A. degree candidates. Provides instruction in systems theory; hospital and medical care information system; systematic approaches to the evaluation of health care services; and programs and the application of selected analytical methods in administrative planning, decision making, and control in health care organizations.

611 Hospital and Medical Law. LH–3; SH–3. II. Examines basic principles and practices of law affecting hospi-

tals and medical practice: the legal aspects of patient care and treatment, medical services, and other hospital-patient related functions.

614 Health Planning and Policy. LH–3; SH–3. II PR: HAD 604. Examines the planning process in the context of both the community and the institution. Considers the essential components of planning and the development of a sound structure for planning. Examines the legal, regulatory, economic, and human factors that influence the planning process.

616 Seminar in Applied Health Planning. LH–2; SH–2. S. PR: HAD 614. Provides students with opportunities to apply planning methodology, including problem definition, research design, information gathering, and evaluation, to actual health issues and problems.

617 Health Facility Design and Construction. LH–2; SH–2. S. PR: HAD 614. Examines the essential elements and process of designing and constructing health facilities.

648 Seminar in Health Services Administration. LH–2; SH–2. S. Case studies and problem-solving exercises intended to integrate the knowledge and skills gained in prior course work.

647 Administration in Health Institutions. LH–3; SH–3. II. PR: organization theory. Analysis of the current state of management study and practice with the objective of achieving a balanced development of both knowledge and skills in solving the human problems of administration in health institutions. The managerial process is critically examined with emphasis on individual behavior and development, intergroup behavior, and behavior in the total organization.

652 Comparative Health Systems. LH–3; SH–3. S. Examines the structure and functions of health care systems in nations other than the United States.

658 Personnel and Labor Relations in Health Institutions. LH–4; SH–4. S. Examines the procurement, development, and maintenance of an effective work force. An analysis of staff development; health and safety; wage and salary administration; employee services; and labor relations.

662 Health Care Politics and Policy Analysis. LH–2; SH–2. II. Examines the political process with particular emphasis on the impact of politics on health care. Focuses on current political issues in the health field, examining conflicts and anticipating effects on the health system.

698 Thesis I. SH–3. II. Independent research to provide the opportunity for the student to select, organize, and report the results of an investigation in a field of major interest.

699 Thesis II. SH–2. S. PR: HAD 698. Continuation of research study begun in HAD 698.

701–702 Problems and Issues in Health Services Administration. SH–6. I and II. PR: ordinarily, the student must satisfactorily complete 50 semester hours of academic course work in the graduate program in hospital and

health services administration before registering for these courses. Examination of contemporary problems and issues in the organization, administration, and evaluation of health services. A principal focus is the application of alternative approaches to administrative problem solving. Special emphasis is placed on understanding of and appreciation for the internal and external factors that influence decision making in health care organizations.

For descriptions of courses in other schools and departments, see the current *Graduate Studies Bulletin* and/or *Undergraduate Bulletin*.

Department of Nurse Anesthesia

HISTORY

The Department of Nurse Anesthesia was organized in 1969 and was the first new teaching program to be implemented in the newly organized School of Allied Health Professions at the Medical College of Virginia of Virginia Commonwealth University. The Master of Science degree in nurse anesthesia is the first such offering through a School of Allied Health Professions in the United States—a significant milestone for the profession of nurse anesthesia.

PHILOSOPHY

The Department of Nurse Anesthesia believes that the master's degree level of education is fundamental to preparing diversified clinical practitioners, future teachers, coordinators, and directors of nurse anesthesia educational programs. We view nurse anesthesiology as an expanded role of nursing in which the nurse anesthetist provides nursing and medically delegated services; instruction, evaluation, and direction of nurse anesthesia services; and teaching educational processes. We believe that professional competence is based on self awareness, an appropriate value system, and the possession of cognitive process capabilities. We believe that clinical teaching, acquisition of clinical skills, competence, and safe practice can best be promoted when the curriculum design supports the philosophy of practice, and that the ability to utilize and retain theoretical knowledge is best facilitated through reinforcement from a variety of directions.

OBJECTIVES

The overall objective of the Department of Nurse Anesthesia is to prepare registered professional nurses for practice in the specialty art and science of anesthesiology.

This rather broad objective is accomplished by implementation of the following:

1. An in-depth presentation of the basic sciences associated with anesthesia practice, with emphasis on understanding the practical application of concepts.
2. Focusing attention on the ultimate role of the nurse anesthetist as a member of the health team.
3. Providing integration of the clinical and didactic teaching programs so that the two are closely correlated throughout the course of study.
4. Placing emphasis on the great need for educators in the field, and encouraging those whose talents are oriented to pursue this goal.
5. Encouraging continued professional education by self-study and discipline, recognizing that these are the only keys to total professional maturity.
6. Providing the student with a challenging and diverse selection of surgical and resuscitative experiences with opportunity for constant criticism and evaluation.

ACCREDITATION

The nurse anesthesia program is fully accredited by The Council on Accreditation For Nurse Anesthesia Educational Programs. The graduate is eligible to take the examination for certification by the American Association of Nurse Anesthetists.

ADMISSION REQUIREMENTS

In addition to the general university requirements, the requirements for admission to the Master of Science in nurse anesthesia are:

1. Baccalaureate degree in nursing or equivalent (a related basic science degree and graduate of an NLN accredited school of nursing).
2. Current licensure as a registered professional nurse in Virginia.
3. A 3.0 grade point average is preferred (other factors may be considered).

4. An average of 500 on state board examinations with no area below 450.
5. Three semester hours of college statistics—preferably biostatistics.
6. Completion of the Graduate Record Examination (GRE) verbal, quantitative, and analytical.
7. A minimum of one year (two years preferred) experience in an area of acute care nursing. Partial credit is granted for emergency room and recovery room experience. No credit for operating room nursing experience.
8. Personal interview with members of the Admissions Committee.

CURRICULUM

<i>First Year, Fall Semester</i>		<i>Semester Hours</i>
NUA 501	Fundamentals of Anesthesia Practice.....	3
PHC 521	Medicinal Chemistry for Nurse Anesthetists I.....	4
PMC 515	Pharmacology for Nurse Anesthetists I.....	3
PIO 501	Advanced Mammalian Physiology.....	5
		15
<i>First Year, Spring Semester</i>		
NUA 531	Regional Anesthesia.....	2
PHC 522	Medicinal Chemistry for Nurse Anesthetists II.....	3
PMC 516	Pharmacology for Nurse Anesthetists II.....	3
NUA 533	Pathophysiology: Anesthetic Considerations.....	3
NUA 535	Historical Development of Anesthesia.....	1
NUA 591	Clinical Practicum I.....	1
		13
<i>First Year, Summer Semester</i>		
NUA 551	Advanced Practice and Principles of Anesthesia.....	4
NUA 553	Biomedical Instrumentation for Nurse Anesthetists.....	2
NUA 555	Professional Aspects of Anesthesia Practice.....	2
NUA 592	Clinical Practicum II.....	5
		13
<i>Second Year, Fall Semester</i>		
NUR 611	Methods of Research.....	3
NUR 612	Research Seminar in Nursing.....	1
NUA 581	Physical Assessment.....	3
AHP 573	Teaching in Health Professional Schools.....	3
NUA 693	Clinical Practicum III.....	4
		14
<i>Second Year, Spring Semester</i>		
HCM 502	Management in Health Care Facilities.....	3
NUA 681	Clinical Project I.....	4
NUA 631	Senior Clinical Seminar.....	1

AHP 574	Allied Health Education Practicum I.....	1
NUA 694	Clinical Practicum IV.....	4
		13
<i>Second Year, Summer Semester</i>		
NUA 682	Clinical Project II.....	2
NUA 695	Clinical Practicum V.....	5
		3
		10

FACULTY

Medical Advisor: Salomonsky
 Associate Professor: Watson (Chairman)
 Assistant Professors: Beeston; Bomberger; Shalenko
 Instructors: DeLap; Montesanti; McDougale, Hahn

COURSES OF INSTRUCTION (NUA)

501 Fundamentals of Anesthesia Practice. LH-3; CLH-5; Lab H-1; SH-3. I. This course introduces the beginning practitioner to those concepts necessary to plan and execute an anesthetic individualized for a patient which insures a margin of patient safety while meeting the surgical requirements. Integrated in this course are selected concepts of respiratory therapy which interface with anesthesia. (Program enrichment includes a 4-week clinical affiliation in respiratory therapy.)

531 Regional Anesthesia. LH-2; SH-2. II. A study of the theoretical and practical considerations involved in the administration and management of regional analgesia: anatomy, physiology, pharmacology, indication, contra-indications, techniques, complications, and their prevention related to selected blocks. (Clinical anesthesia practicum will include practical experience in the administration and/or management of selected blocks.)

533 Pathophysiology. LH-3; SH-3. II. Pathophysiology of the neuromuscular, cardiovascular, respiratory, excretory, and endocrine systems; infectious diseases, gastrointestinal disorders; nutritional disorders; connective tissue diseases; muscle, skin, bone disorders; and environmental and behavioral disorders. The pathophysiology will be studied in relationship to anesthetic considerations.

535 Historical Development of Anesthesia. LH-1; SH-1. II. A study of the history of anesthesia, to include the evolutionary stages in the development of anesthesia and the professional organizations: the American Association of Nurse Anesthetists and the American Society of Anesthesiologists.

551 Advanced Practice and Principles of Anesthesia. LH-4; SH-4. S. This course delineates those practices and techniques of anesthesia management which are considered as situation-specific for specialized surgical procedures, diagnostic, or therapeutic procedures; includes the obstetrical, pediatric, and geriatric patient.

553 Biomedical Instrumentation for Nurse Anesthetists. LH-2; SH-2. S. A course surveying the basic essentials of biomedical instrumentation as utilized in those electronic

devices most often encountered by nurse anesthetists; to include a brief descriptive review of the basic laws of electrical circuits and the physical principles of biophysical measurement.

555 Professional Aspects of Anesthesia Practice. LH-2; SH-2. S. This course includes five specific areas of professional focus: psychosocial, ethics, legal aspects, organization and management of an anesthesia department, and basic life support (CPR) for health professionals.

581 Physical Assessment. LH-3; SH-3. I. A didactic and laboratory study of the physical examination to provide the graduate with the capability of performing a screening, pre-anesthesia examination aimed at identifying pathology rather than diagnosing particular disease entities, to include taking an appropriate health history.

591 Clinical Practicum I. CLH-9; SH-1. II. Pre-operatively conducts interviews, prepares anesthesia care plans with selection of anesthetic agents and techniques, calculates fluid requirements. Is introduced to clinical area with supervised participation in actual administration of anesthesia. Demonstrates knowledge of equipment and monitors, skills, dexterity, and ability to integrate physiological data in anesthesia management, its termination, and post-anesthetic care.

592 Clinical Practicum II. CLH-40; SH-5. S. Continuation of NUA 591. Demonstrates internalization of theoretical concepts and techniques and application in anesthetic management. Emphasis on assuming greater responsibility for total anesthetic regime. Progresses to a greater variety and more complex anesthetic managements, to include p m, nights, and weekend duty. Gains experience in emergency and acute trauma surgery.

681-682 Clinical Project I and II. SH-6. II, S. Required of all students, the independent clinical project provides the student the opportunity to select, organize, and report the results of an investigation into some specific area of interest to clinical anesthesiology. The project study will be written in a publishable format.

693 Clinical Practicum III. CLH-30; SH-4. I. Continuation of NUA 592. Intensive clinical experience in each of the clinical anesthesia areas. Greater emphasis is placed on development of independent decision making in planning, managing, terminating, and follow-up anesthesia care. Includes rotation of clinical experience to include affiliations at Richmond Memorial, Crippled Childrens, St. Lukes (respiratory therapy), and Veterans Administration Hospitals to gain experience in management of specialized anesthetic considerations, and functioning in a variety of clinical settings in conjunction with certified registered nurse anesthetists and staff attending anesthesiologists. Assesses clinical experience and plans for anesthesia project.

694 Clinical Practicum IV. CLH-30; SH-4. II. Continuation of NUA 693. Affiliations to specialized areas continue. Beginning to function with minimum of supervision from certified registered nurse anesthetists and attending staff anesthesiologists. Pursues independent library research and collects clinical data to support anesthesia project.

695 Clinical Practicum V. CLH-40; SH-5. S. Continuation of NUA 694. Intensive application of all previous clinical experiences to demonstrate development of independent thought and judgement and ability to function with minimum of supervision. Correlates clinical data with anesthesia project in preparation for presentation. Reviews all clinical experiences in preparation for writing of qualifying examination of American Association of Nurse Anesthetist. All clinical requirements are completed.

Program of Medical Record Administration

The program of medical record administration was organized in 1978. It is the first baccalaureate program in the field of medical record science in the commonwealth of Virginia. The first students were admitted in the fall of 1978 and the first degrees (Bachelor of Science with a major in medical record administration) will be awarded in May, 1980.

A critical national need has made health care a rapidly expanding field with limitless career opportunities. Nowhere is this need felt more than in medical record administration, which is defined by the American Medical Association as "the management of health information systems consistent with the medical, administrative, ethical, and legal requirements of the health care delivery system." The American Medical Record Association estimates that 60,000 record administrators and technicians are needed in hospitals alone, compared with the 13,500 presently employed.

The medical record administrator is usually the administrative head of the medical record department of a health facility. The administrator plans, coordinates, and administers the patient health information system. This person is charged with the responsibility of:

1. maintaining complete and accurate records on patients treated;
2. developing, analyzing, and technically evaluating health records;
3. developing secondary records such as indices of physicians, diseases treated, and operations performed;
4. developing and analyzing statistical reports;
5. supervising departmental workers;
6. assisting the medical staff in developing methods of evaluating patient care;
7. assisting hospital personnel in conducting research projects that require ab-

strating health data from the medical record.

REQUIREMENTS FOR ADMISSION

Students are admitted to the program as juniors and must have completed 60 hours at an accredited college or university. This minimum requirement is to include:

	<i>Semester Hours</i>
Humanities	
English (composition and literature).....	6
Speech	2
Total	8
Mathematics and Natural Sciences	
Biological Sciences (with laboratory).....	8
Physical Sciences (with laboratory)	4
Algebra	3
Statistics	3
Accounting.....	3
Anatomy and Physiology (with laboratory).....	8
Total	29
Social Sciences	
Sociology.....	3
Psychology.....	3
Economics.....	3
Total	9
Electives	14-18
Total	60-64

Typing proficiency must also be demonstrated prior to admission to the program.

CURRICULUM

Students in the medical record administration program must satisfactorily complete the following courses:

<i>Junior Year, Fall Semester</i>	<i>Semester Hours</i>
MER 300 Medical Terminology	3
MER 301 Introduction to Records Management	1
MER 302 Fundamentals of Medical Science I	3
BUS 321 Organization and Management I....	3
BUS 360 Information Systems Concepts.....	3
HCM 302 Health Care Services I.....	3
	16
<i>Spring Semester</i>	
MER 303 Fundamentals of Medical Science II.....	3
MER 312 Clinical Practicum I	1
MER 313 Medical Record Science and Administration	3
BUS 311 Financial Management.....	3
HCM 303 Health Care Services II.....	3
HCM 306 Legal and Regulatory Controls in the Health Industry	3
	16
<i>Senior Year, Summer Session</i>	
BUS 331 Personnel Management.....	3

MER 400 Medical Record Science and Administration II	3
MER 410 Clinical Practicum II.....	2
	8

Fall Semester

MER 422 Medical Record Science and Administration III.....	4
HCM 432 Health Information Systems and Research	3
HCM 404 Fiscal Management in Health Care Facilities	3
HCM 406 Personnel Management in Health Care Facilities	3
Elective	3
	16

Spring Semester

MER 423 Medical Record Science and Administration IV	6
HCM 433 Health Care Evaluation and Quality Assurance	3
HCM 502 Management in Health Care Facilities	3
Electives	2
	14
Total	70

FACULTY

Associate Professor: Dixon (Chairman)

Instructors: Johnson, Makepeace

COURSES OF INSTRUCTION (MER)

300 Medical Terminology. LH-2; CI H-3; SH-3. I. Study of scientific terminology emphasizing the "language of medicine" through study of etymology, medical records, and scientific readings. Practical application is required in the medical transcription laboratory.

301 Introduction to Records Management. LH-1; SH-1. I. History of records management and the methods of securing and processing information.

302-303 Fundamentals of Medical Science: I and II. LH-3 (each semester); SH-6. I and II. Introduction to the study of disease processes, diagnosis, and treatment. Covers principal diseases and associated causes, history, and physical findings correlated with pathophysiology.

312 Clinical Practicum. PR: MER 301; CR: MER 313. Assigned medical record functions under supervision of an accredited record technician or registered record administrator in a health care facility.

313 Medical Record Science and Administration I. LH-2; CI H-4; SH-3. II. Introduction to health records systems, standards for development of the medical record; the medical record administrator's responsibility for design, implementation, and management of systems.

400 Medical Record Science and Administration II. LH-3; SH-3. III. PR: MRA 313. Study of coding and indexing of medical information according to various classification systems; health statistics: admitting office

procedures. Introduction to the organization and administration of the medical record department.

410 Clinical Practicum. SH-3 S. PR: permission of instructor. Assigned functions under supervision in a health care facility. Seminars are scheduled during the 200 hour (5 week) practicum.

420 Special Topics. SH-1-3. I, II. PR: permission of instructor. Study through lectures, tutorial services, or independent research of selected topics not provided in other courses.

422 Medical Record Science and Administration III. LH-3; CI H-4; SH-4. I. PR: MER 313, 320. A study of records and systems for long-term care and other related facilities, and ancillary service departments; the problem oriented medical record.

423 Medical Record Science and Administration IV. LH and CI H-variable; SH-6. II. PR: permission of instructor. This capstone course includes two elements—a directed practice in departmental administration under the supervision of a registered record administrator and an administrative seminar relating to trends and changes in medicine and therapy and professional and administrative problems of the medical record administrator.

See pages 159-160 for descriptions of courses with prefixes "HCM".

See *Virginia Commonwealth University Undergraduate Bulletin* for descriptions of the following courses: BUS 311, 321, 322.

CERTIFICATION

Upon successful completion of this program, the graduate will be awarded the Bachelor of Science degree with a major in medical record administration by Virginia Commonwealth University. The graduate will be eligible to sit for the national registry examination of the American Association of Medical Record Administrators for certification as a Registered Record Administrator (RRA).

ACCREDITATION

The curriculum conforms to the requirements of the American Medical Association's Committee on Allied Health Education and Accreditation, in collaboration with the American Medical Record Association.



PART VIII—Blood Banking, Cytotechnology, Dietetic Internship, EEG Technology

Blood Banking

PROGRAM

The Blood Banking Program consists of 12 months of formal training in advanced blood banking. Two weeks vacation and a leave of one week in October, November, or December are allowed.

The MCV Blood Bank provides the blood banking service for the MCV Hospitals. It prepares and provides all blood and blood components.

The Blood Bank is accredited by the American Association of Blood Banks and is a member of the association's Clearing House system. The special studies laboratory handles many problem cases from outside MCV and is a reference laboratory for local hospital blood banks.

The blood banking students' training consists of practical work in the various departments of the Blood Bank and its affiliate, the Richmond Metropolitan Blood Service, formal lectures, and alternating weekly seminars and journal club held on the MCV Campus.

ENTRANCE REQUIREMENTS

The applicant must have:

1. (a) Certification in medical technology by the Board of Registry of Medical Technologists of ASCP.

OR

- (b) A bachelor's degree with a major in one of the biological sciences plus a minimum of one year's experience in a blood bank acceptable to the director of the program.

2. Submitted a transcript of college credits and a copy of the diploma.

3. A completed application, including personal recommendations regarding ability, knowledge, and moral character. The transcript of record, application form, and recommendation letters must be submitted to the director of the course before September 1 of the year preceding matriculation.

CURRICULUM AND SCHEDULE FOR STUDENTS

1. Classes begin each year in January.
2. The course runs for 52 weeks.
3. Lectures are given in two semesters.
4. Each student rotates through the various sections of the Blood Bank, keeping a notebook of all bench work done. This is checked monthly by the teaching and technical supervisor of the Blood Bank.

The practical training portion of the program consists of laboratory procedures performed under supervision, including the various immunohematologic tests and quality control functions, the collection of blood and blood components by manual and automated

equipment, and their processing and storage. The students also spend one week of training in each of the following laboratories: hematology, coagulation, serology, microbiology, and tissue typing. One month will be devoted to a special, short-term research project.

The weekly seminars and journal clubs are held to review the current literature

REFERENCE SOURCES

Library facilities are available through the Tompkins-McCaw Library, pathology department library, and the office of the director of the program.

EXPENSES

Currently, there is no tuition as this is an inservice training similar to an internship. White uniforms are required. A monthly stipend equivalent to a technologist's salary is sometimes available.

CERTIFICATION

Students receive a certificate of training in blood banking from Virginia Commonwealth University upon satisfactory completion of the course. As the course has been approved by the American Association of Blood Banks and the American Medical Association, the graduate is eligible to take the examination for certification in blood banking given by the Board of Registry of Medical Technologists.

FACULTY

Program Director: Hossaini

Professors: Allison; Dalton; Escobar; Fisher; Hossaini; Nance; Vennart

Assistant Professor: Sharp

Education Coordinator: Parker

Cytotechnology

PROGRAM

This consists of 12 months of formal training for students to become eligible to take the certification examination in cytotechnology of the American Society of Clinical Pathologists. Successful candidates may then use the letters CT(ASCP) following their name. The course consists of didactic study and practical experience in all phases of cytotechnology.

CLASSES

Students are accepted each year in September. They attend lectures twice each week for

approximately the first six months of training. These didactic presentations are about cells exfoliated from various tracts and cavities of the human body and what specific conditions may be diagnosed from examination of these cells.

Training also includes supervised experience in the techniques of preparing cellular material for screening and detection of malignant disease, the study of prepared specimens illustrating abnormal cells, and observation of current case material submitted to the cytology laboratory at the Medical College of Virginia Hospitals. Regularly scheduled conferences and teaching sessions are held with the staff pathologists and supervisory cytotechnologists in charge of the laboratory.

ENTRANCE REQUIREMENTS

1. Sixty hours of college credits from an accredited college, at least 14 of which must be in biological science. These credits must be current. Candidates with academic degrees are given preference. Foreign nationals are *not* considered for this program.

2. Mental and physical aptitude for technology training.

3. Completed application and personal interview.

4. An official transcript of college work completed and in progress must be submitted with the completed application.

EXPENSES

There is no tuition fee. Students must purchase their own books, which cost approximately \$60. White uniforms and shoes are recommended, but are not required. Campus housing and meal plans are available at moderate cost. Students living in campus housing are required to participate in the Student Health Service and pay the Student Health Service fee.

CERTIFICATION

Students completing the course satisfactorily receive a certificate of training from Virginia Commonwealth University. No academic credit is given.

FACULTY

Professors: Frable (Director); Kay; Elzay; Schneider

Educational Coordinator, Chief Cytotechnologist: Outlaw

Cytotechnologist: Trew

Dietetic Internship

The dietetic internship program was organized in 1929 through the efforts and interest of the dietary staff. The first group, four students, completed the six-month program in November, 1929. The American Dietetic Association approved the curriculum, and these graduates were eligible for membership in this professional organization.

With growing interest in dietetics, the program grew along with the college. It has continued to be accredited by the American Dietetic Association. At present, the internship is an 11-month course. Fourteen interns are accepted each year.

Interns receive advanced training in food service administration, clinical nutrition, clinical research, and community nutrition. Teaching experience is offered as an integral part of all areas of learning, and interns are assigned to the various units in the hospitals on a scheduled rotation. Under the supervision of professional dietitians and food service managers, interns are given individual instruction and support in assignments in all areas. Various affiliations are planned which supplement the intern's learning experiences. The educational opportunities in a medical center are such that any young person interested in this health profession can choose from a variety of areas in nutrition for future employment.

ALLOWANCE FOR EDUCATIONAL EXPENSES

The present educational stipend is \$300 per month with federal and state taxes deducted. Health care is provided through the student health service.

FEES

A fee of \$10 is payable at registration.

HOUSING AND MEALS

Rooms are available in residence halls on a year's basis. Meals may be secured at mini-

mum cost in one of the cafeterias or the student center.

WORK AND VACATION

Interns are scheduled for 40-hour weeks (five eight-hour days). One of these days is a class day with academic activities. Two weeks' vacation and two holidays are allowed per year.

CERTIFICATE

Persons satisfactorily completing the course receive a certificate from Virginia Commonwealth University. Graduates are recommended for membership in the American Dietetic Association and upon successful completion of an examination are eligible to become registered dietitians.

ENTRANCE REQUIREMENTS

Candidates for admission must have received a bachelor's degree or an advanced degree from an accredited college or university and have taken all courses required by the American Dietetic Association for entrance into the dietetic internship program.

APPLICATION

Application forms are available from most college and university home economics departments or may be ordered directly from the Director of the Dietetic Internship, MCV/VCU. These should be completed and given to the applicant's advisor or department head to be sent to: Director of the Dietetic Internship, MCV Hospitals, Virginia Commonwealth University, Box 294, MCV Station, Richmond, VA 23298, by March 1. Appointments are made in April.

FACULTY

Director: Robbins, R. D.

Director, Food Services: Ginns

Clinical Coordinator, Administration: Hill, R. D.

Clinical Coordinator, Therapeutics: Costello, R. D.

Senior Research Dietitian: Jennings, R. D.

Nutritionist, Outpatient Clinics: Endsley, R. D.

Pediatric Dietitian: Saunders, R. D.

Head Therapeutic Dietitians: Moody, R. D.; Williams, R.D.

EEG Technology

PROGRAM

The Electroencephalographic (EEG) Technology course consists of 11 months (July to June) of formal training; combining lectures, conferences, and extensive on-the-job practical training. Students receive two weeks leave at Christmas plus one week spring vacation. The course is divided into theoretical and practical training in an accredited laboratory. Training is on a 40-hour-a-week basis.

CLASSES

Students are accepted in July each year. They attend lectures in neuroanatomy, neurophysiology, neuropathology, basic electronics, basic medical terminology, and history taking. Proper head marking, application of electrodes to the International 10-20 Electrode System and proper use of all different types of electrodes are taught. Students attend clinical neurology conferences and EEG interpretation sessions with the supervisory physicians (electroencephalographers).

ENTRANCE REQUIREMENTS

Applicants for admission must have a high school diploma and be in the upper half of their graduating class. One or two years of college training is useful.

EXPENSES

There is no tuition fee. Campus housing and meal plans are available at moderate cost. All dormitory students are required to participate in the Student Health Service and pay the required fee. White uniforms and shoes are required.

CERTIFICATION

Students completing the course satisfactorily receive a certificate of training from Virginia Commonwealth University. They are then eligible to take the examination given by the American Board of Registration of EEG Technologists.

APPLICATION

Application forms should be obtained before April 30 from Chairman, Department of Neurology, Medical College of Virginia, Virginia Commonwealth University, Box 599, MCV Station, Richmond, VA 23298.

FACULTY

Professor: Suter (Chairman, Department of Neurology and Director, EEG Technology)
Assistant Professors: Brush; Calabrese; Isrow; McGee; O'Bannon
EEG Supervisors: Beverly; Hendrix; Washington



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Director of University Libraries

J. Craig McLean, B.A., M.S.L.S.

Director, Tompkins-McCaw Library

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Director, Department of Visual Education,

MCV

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University Registrar

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Director, Information Services

Ralph M. Ware, Jr., B.S.

Director of Development

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Associate Dean, Clinical Activities, Medical
Staff Services
Robert J. Wink
Director, Support Services

FACULTY

Faculty listings include appointments made by
the Board of Visitors on March 15, 1979.

Abbey, Louis M. (1971)¹ *Associate Professor of
Oral Pathology* A.B., 1963, Earlham College;
D.M.D., 1967, M.S., 1971, Tufts University.
Abbott, David M. (1975) *Assistant Professor of
Occlusion* B.S., 1968, Madison College; D.D.S.,
1972, University of North Carolina; M.S.D.,
1975, University of Minnesota.
Abbott, Michael A. (1978) *Clinical Instructor in
Community Dentistry* B.S., 1974, Randolph
Macon College; D.D.S., 1978, Medical College
of Virginia of Virginia Commonwealth
University.
Abedi, Esrafil (1977) *Assistant Professor of
Otology, Rhinology, and Laryngology*
E.C.F.M.G. (M.D.), 1970, Tehran University,
Iran.
Abedi, Shahla (1976) *Assistant Professor of
Ophthalmology* M.D., 1970, Tehran University,
Iran.

Abell, Edward (1974) *Assistant Professor of
Dermatology* M.B.B.S., 1964, M.R.C.S.-
L.R.C.P., 1964, M.R.C.P., 1968, St.
Bartholomew's Hospital Medical College,
University of London.
Abernathy, Ted R. (1974) *Clinical Instructor in
Pediatrics* B.A., 1964, Virginia Military
Institute; M.D., 1970, Medical College of
Virginia.
Aceto, Mario D. (1973) *Associate Professor of
Pharmacology* B.S., 1953, Providence College,
Rhode Island; M.S., 1956, University of
Maryland; Ph.D., 1958, University of
Connecticut.
Ackell, Edmund F. (1978) *President of the
University and Professor of Oral Surgery* B.S.,
1949, Holy Cross College; D.M.D., 1953 Tufts
College; M.D., 1962, Western Reserve
University.
Adams, Judith G. (1977) *Assistant Professor of
Medical Technology* B.S., 1966, M.S., 1976,
Medical College of Virginia of Virginia
Commonwealth University.
Adams, Melissa A. (1977) *Clinical Instructor in
Physical Therapy* B.A., 1969, Wheaton College;
Certificate, 1970, University of Pennsylvania
School of Allied Health.
Adams, Robert Crady, Jr. (1978) *Instructor in
Pharmacy* B.S., 1965, University of Tennessee.
Adams William E. (1976) *Assistant Professor of
Surgery*, B.S., 1966, M.D., 1970, University of
Alabama.
Adelaar, Robert E. (1976) *Assistant Professor of
Surgery*, B.S., 1966, B.A., 1967, Lehigh
University; M.D., 1970, University of
Pennsylvania.
Addington, Jerry A. (1976) *Clinical Instructor in
Pedodontics* B.A., 1972, University of Virginia;
D.D.S., 1976, Medical College of Virginia of
Virginia Commonwealth University.
Adkins, Julian (1977) *Instructor in Psychiatry*
B.A., 1949, Randolph-Macon College;
M.S.S.W., 1959, Virginia Commonwealth
University.
Aghdami-Nasr, Aliasghar (1973) *Assistant
Professor of Anesthesiology* M.D., 1957, Tabriz
University Medical School, Iran; D.A., 1966,
Royal College of Physicians and Surgeons of
England.
Ahr, Paul (1976) *Assistant Clinical Professor of
Hospital and Health Administration* A.B., 1966,
University of Notre Dame; Ph.D., 1971, The
Catholic University of America.
Akers, George R. (1975) *Clinical Instructor in
Pharmacy* B.S., 1967, Medical College of
Virginia.
Akhtar, Salman (1976) *Assistant Professor of
Psychiatry* M.D., 1973, Institute of Medical
Education and Research (India).

¹Year of first appointment.

Board, Administration, and Faculty

- Alexander, John M. (1975) *Associate Professor of Oral Surgery* D.D.S., 1966, Medical College of Virginia.
- Allen, Donald Keith (1978) *Instructor in Pharmacy* B.S., 1960, Medical College of Virginia of Virginia Commonwealth University.
- Alley, Charles D. (1977) *Instructor in Anatomy* B.S., 1971, M.A., 1972, William and Mary College; Ph.D., 1977, Medical College of Virginia of Virginia Commonwealth University.
- Allison, Marvin J. (1961) *Professor of Clinical Pathology* B.A., 1942, College of William and Mary; M.A., 1947, Ph.D., 1960, University of Pennsylvania.
- Alpern, Frederick P. (1971) *Clinical Instructor in Pediatrics* B.S., 1962, Columbia University; M.D., 1966, Medical College of Virginia.
- Amendola, Marco (1977) *Assistant Professor of Radiology* B.S., 1962, San Carlos Lyceum, Uruguay; M.D., 1971, University of Uruguay.
- An, Teisa (1976) *Assistant Professor of Pathology* B.S., 1961, M.D., 1965, Osaka University; Ph.D., 1972, University of Pittsburgh.
- Anderson, Harry P., Jr. (1956) *Lecturer in Legal Medicine* B.A., 1947, LL.B., 1948, University of Virginia.
- Anderson, R. David (1973) *Assistant Clinical Professor of Pharmacy* B.S., 1947, Medical College of Virginia.
- Andrako, John (1956) *Assistant Vice-President for Health Sciences and Professor of Pharmaceutical Chemistry* B.S., 1947, M.S., 1949, Rutgers University; Ph.D., 1953, University of North Carolina.
- Andrako, John D. (1978) *Clinical Instructor in Pediatrics* B.S., 1971, University of North Carolina; M.D., 1975, Medical College of Virginia of Virginia Commonwealth University.
- Andrews, Jack Preston (1963) *Assistant Clinical Professor of Pediatrics* M.D., 1957, Medical College of Virginia.
- Angel, Kenneth W. (1978) *Assistant Professor of Legal Medicine* B.S., 1967, M.H.A., 1973, Virginia Commonwealth University; J.D., 1978, Indiana University.
- Ansell, Burness F., Jr. (1967) *Clinical Instructor in Internal Medicine* B.S., 1953, Hampden-Sydney College; M.D., 1957, Medical College of Virginia.
- Archer, Gordon L. (1975) *Associate Professor of Medicine* B.A., 1965, Washington and Lee University; M.D., 1969, University of Virginia.
- Archer, John S., Jr. (1958) *Clinical Instructor in Otolaryngology* B.A., 1940, University of Virginia; M.D., 1943, Medical College of Virginia.
- Arginteanu, Jules (1964) *Professor of Psychiatry* B.A., 1956, Antioch; M.A., 1960, Ph.D., 1961, State University of Iowa.
- Arling, Gregory W. (1977) *Assistant Professor of Gerontology and Director, Virginia Center on Aging* B.A., 1969, Augustana College; M.A., 1972, Ph.D., 1974, University of Illinois.
- Armstrong, Richard H. (1972) *Assistant Clinical Professor of Psychiatry* B.S., 1953, Maine Maritime Academy; M.D., 1961, Medical College of Virginia.
- Arnold, Gayle G. (1965) *Associate Clinical Professor of Pediatrics* A.B., 1942, Johns Hopkins University; M.D., 1945, University of Maryland.
- Arthur, Robert Miller (1965) *Assistant Professor of Medicine* A.B., 1950, University of North Carolina; M.D., 1954, Duke University.
- Ashworth, John S. (1964) *Clinical Instructor in Medicine* B.A., 1954, Princeton University; M.D., 1958, Columbia University.
- Astruc, Juan A. (1967) *Professor of Anatomy* M.D., 1957, Ph.D., 1959, University of Granada, Spain.
- Atiyeh, Wasfi A. (1960) *Assistant Clinical Professor of Otolaryngology* B.A., 1948, M.D., 1952, American University of Beirut.
- Atkinson, Gerald W. (1966) *Clinical Instructor in Neurology* B.A., 1952, Lincoln Memorial University; M.D., 1956, Medical College of Virginia.
- Atwill, William H. (1968) *Assistant Clinical Professor of Surgery (Urology)* B.S., 1953, Virginia Military Institute; M.D., 1960, University of Virginia.
- Austein, David H. (1977) *Clinical Instructor in Pediatrics* B.S., 1970, M.D., 1974, Northwestern University.
- Austin, Leonard A. (1962) *Clinical Instructor in Pediatrics* B.S., 1953, Richmond Professional Institute; M.D., 1959, Medical College of Virginia.
- Avent, Mitchell A. 1979 *Assistant Clinical Professor of Pedodontics* B.S., 1972, University of Georgia; D.D.S., 1976, Virginia Commonwealth University.
- Bach, Carole A. (1968) *Associate Professor of Medical-Surgical Nursing* B.S.N., 1966, Indiana University; M.S.N., 1968, Washington University.
- Bacon, Franklin (1961) *Dean of Students, MCV Campus, and Associate Professor of Adult Education* A.B., 1942, University of Missouri; M.A., 1950, University of Chicago.
- Bahlman, John H., Jr. (1977) *Clinical Instructor in Pharmacy* B.S., 1974, Medical College of Virginia of Virginia Commonwealth University.
- Bailey, Robert L., Jr. (1964) *Clinical Associate in Medicine* B.S., 1933, University of South Carolina; M.D., 1937, University of Virginia.
- Bain, Carl E. (1977) *Clinical Instructor in Pharmacy* B.S., 1951, Medical College of Virginia.

Board, Administration, and Faculty

- Balster, Robert L. (1973) *Associate Professor of Pharmacology* B.S., 1966, University of Minnesota; Ph.D., 1970, University of Houston.
- Bampton, Betsy A. (1965) *Associate Professor of Maternal-Child Nursing* A.A., 1957, Frostburg State College; B.S., 1960, Medical College of Virginia; M.S., 1965, University of Maryland.
- Bancroft, Barbara B. (1978) *Instructor in Occupational Therapy* B.S., 1969, University of Florida.
- Banks, William L., Jr. (1965) *Professor of Biochemistry and Surgery* B.S., 1958, Rutgers University; M.S., 1961, Bucknell University; Ph.D., 1963, Rutgers University.
- Banner, Robert L. (1977) *Assistant Clinical Professor of Surgery* B.S., 1948, M.D., 1950, University of Tennessee.
- Barker, Thomas C. (1967) *Dean, School of Allied Health Professions, and Professor of Health Administration* B.S., 1954, M.A., 1960, Ph.D., 1963, State University of Iowa.
- Barlow, Gordon K. (1979) *Clinical Instructor in Pharmacy* B.S., 1974, University of Pittsburgh.
- Barnes, James M. (1965) *Assistant Clinical Professor of Psychiatry* A.B., 1951, Vanderbilt University; M.D., 1958, Medical College of Virginia.
- Barnes, Richard (1978) *Instructor in Restorative Dentistry* B.S., 1966, Virginia Polytechnic Institute and State University; D.D.S., 1977, Medical College of Virginia of Virginia Commonwealth University.
- Barnes, Robert F. (1977) *Assistant Professor of Restorative Dentistry* B.A., 1967, University of Virginia; D.D.S., Medical College of Virginia of Virginia Commonwealth University.
- Barnes, Robert W. (1977) *Professor of Surgery, Eminent Scholar* M.A., 1958, University of Colorado; M.D., 1961, University of Illinois.
- Barr, John C. (1977) *Clinical Instructor in Patient Counseling* B.S., 1951, Claflin College; M.Div., 1956, Drew Theological Seminary, University of Maine.
- Barr, William H. (1972) *Professor and Chairman, Department of Pharmacy and Pharmaceuticals* B.S., 1960, Pharm. D., 1961, Ph.D., 1966, University of California, San Francisco.
- Barrett, Frances E. (1956) *Assistant Professor of Medicine* M.D., 1949, University of Virginia.
- Barringer, Michael L. (1967) *Clinical Instructor in Pediatrics* B.A., 1952, University of North Carolina; M.D., 1962, Bowman Gray Medical School.
- Barth, Wanda J. (1974) *Director of Nursing Services, MCVH, and Assistant Professor of Nursing* B.S., 1966, University of Arkansas; M.N., 1967, University of Florida.
- Batchelder, Harold C. (1968) *Associate Professor of Psychiatry (Social Work)* B.A., 1952, Elon College; M.S.S.W., 1960, Richmond Professional Institute.
- Bates, Robley D., Jr. (1954) *Assistant Clinical Professor of Medicine* B.A., 1930, University of Richmond; M.D., 1934, Medical College of Virginia.
- Battista, Joseph Victor (1975) *Clinical Instructor in Obstetrics and Gynecology* A.B., 1964, Princeton University; M.D., 1968, Cornell University.
- Bayer, Frederick W. (1968) *Clinical Instructor in Rehabilitation Medicine* M.D., 1950, University of Louisville.
- Baylor, Richard N. (1954) *Assistant Clinical Professor of Medicine* M.D., 1946, Medical College of Virginia.
- Bazuzi, Hanna George (1974) *Instructor in Library Science* B.A., 1970, Hampton Institute; M.S.L.S., 1971, Atlanta University.
- Beachley, Michael C. (1970) *Professor and Chairman, Department of Radiology* A.B., 1962, B.M.S., 1963, Dartmouth College; M.D., 1965, Harvard University.
- Beall, John D. (1962) *Assistant Clinical Professor of Restorative Dentistry* D.D.S., 1948, Medical College of Virginia.
- Bear, S. Elmer (1951) *Professor and Chairman, Department of Oral Surgery and Professor of Surgery* D.D.S., 1945, Northwestern University.
- Bearden, Florence M. (1975) *Associate Professor of Occupational Therapy* B.A., 1948, University of North Carolina; M.A., 1969, University of Southern California.
- Beazley, Wyatt S., III (1969) *Assistant Clinical Professor of Surgery* B.A., 1957, University of Virginia; M.D., 1961, Medical College of Virginia.
- Beck, Ralph E. (1968) *Associate Clinical Professor of Pathology* A.B., 1954, M.D., 1957, University of Illinois.
- Becker, Donald P. (1971) *Professor of Surgery and Chairman, Division of Neurosurgery* B.A., 1957, Williams College; M.D., 1961, Western Reserve University.
- Becker, Elmore J. (1965) *Assistant Clinical Professor of Internal Medicine* A.B., 1952, Georgetown University; M.D., 1956, University of Virginia.
- Bedinger, Robert W. (1958) *Assistant Clinical Professor of Medicine* M.D., 1948, Medical College of Virginia; B.S., 1968, Virginia Military Institute.
- Beeston, John T., III (1978) *Assistant Professor of Nurse Anesthesia* B.S., 1976, M.A., 1978, University of Minnesota.
- Belcher, James R. (1975) *Clinical Instructor in Pharmacy* B.S., 1972, Medical College of Virginia of Virginia Commonwealth University.

Board, Administration, and Faculty

- Belgrad, Richard (1975) *Associate Professor of Radiology* B.S., 1952, Loyola College; M.D., 1956, University of Maryland.
- Bell, Bertha R. (1974) *Assistant Professor of Nursing* B.S., 1957, St. Joseph College; M.S., 1960, Boston College; M.S., 1971, University of Maryland.
- Bell, Dewey H., Jr. (1952) *Professor and Chairman, Department of Removable Prosthodontics* B.S., 1948, Wofford College; D.D.S., 1952, Medical College of Virginia.
- Bell, Michael E. (1976) *Assistant Professor of Radiologic Technology* B.S., 1974, Medical College of Georgia; M.Ed., 1975, University of Illinois.
- Belt, Douglas S. (1978) *Clinical Instructor in Restorative Dentistry* B.S., 1970, University of Richmond; D.D.S., 1974, Medical College of Virginia of Virginia Commonwealth University.
- Bennett, Ann F. (1973) *Assistant Professor of Medical-Surgical Nursing* B.S., 1962, University of North Carolina; M.S., 1969, University of Maryland.
- Bennett, William J. (1977) *Assistant Clinical Professor of Pedodontics* B.S., 1971, Wake Forest University; D.D.S., 1975, University of Maryland School of Dentistry.
- Berman, Wallace F. (1977) *Associate Professor of Pediatrics* B.S., 1967, M.D., 1969, University of Minnesota.
- Bernart, William F. (1968) *Associate Clinical Professor of Medicine* A.B., 1950, Princeton University; M.D., 1954, Columbia University.
- Bernhardt, James I. (1977) *Clinical Instructor in Community Dentistry* B.S., 1956, College of William and Mary; D.D.S., 1960, Medical College of Virginia.
- Berryman, Richard M. (1975) *Clinical Instructor in Pharmacy* B.S., 1963, Medical College of Virginia.
- Bhatnagar, Ajay S. (1968) *Assistant Professor of Obstetrics and Gynecology and Biochemistry* B.A., 1963, M.A., 1967, University of Cambridge, England; Ph.D., 1967, University of Basel, Switzerland.
- Biber, Margaret C. (1975) *Associate Professor of Physiology* B.Sc., 1964, University College, London; D. Phil., 1967, Oxford University, England.
- Biber, Thomas U. L. (1975) *Professor of Physiology* M.D., 1956, University of Bern Medical School, Switzerland.
- Bick, Peter H. (1978) *Assistant Professor of Microbiology* A.B., 1970, Albion College; M.S., 1972, Ph.D., 1975, University of Michigan.
- Bigley, H. Alan (1977) *Clinical Instructor in Surgery* B.A., 1964, Johns Hopkins University; M.D., 1968, University of Virginia.
- Bird, William C. (1975) *Assistant Clinical Professor of Periodontics* B.S., 1950, University of Dubuque; D.D.S., 1956, Marquette University; M.S., 1966, Ohio State University.
- Bissell, Stephen L. (1971) *Assistant Clinical Professor of Oral Surgery* B.S., 1958, D.D.S., 1959, Medical College of Virginia.
- Bitar, Khalil N. (1978) *Instructor in Physiology* B.S., 1968, American University of Beirut; M.S., 1973, Univerite de Provence, Marseilles, France; Ph.D., 1976, American University of Beirut.
- Black, James B., Jr. (1954) *Assistant Clinical Professor of Medicine and Dermatology* A.B., 1931, Davidson College; M.D., 1938, University of Virginia.
- Blackard, William G. (1975) *Professor and Director of Clinical Research Center* M.D., 1957, Duke University Medical School.
- Blackmore, John R. (1977) *Clinical Instructor in Dermatology* B.S., 1954, Columbia University; M.D., 1959, Medical College of Virginia.
- Blades, James F. (1954) *Assistant Clinical Professor of Surgery* A.B., 1930, Kentucky Wesleyan College; M.D., 1934, Yale University.
- Blair, Charles J. (1970) *Assistant Clinical Professor of Ophthalmology* B.S., 1958, Randolph-Macon College; M.D., 1962, Medical College of Virginia.
- Blanke, Robert V. (1972) *Professor of Clinical Pathology and Pharmacology* B.S., 1949, Northwestern University; M.S., 1953, Ph.D., 1958, University of Illinois.
- Blankinship, Rex (1958) *Assistant Clinical Professor of Psychiatry* B.S., 1925, Beloit University; M.D., 1929, Medical College of Virginia.
- Blanton, Wyndham B., Jr. (1959) *Clinical Professor in Internal Medicine, and Rector, VCU Board of Visitors* B.A., 1943, University of Richmond; M.D., 1950, M.S., 1959, Medical College of Virginia.
- Blaylock, W. Kenneth (1964) *Professor and Chairman, Department of Dermatology and Associate Dean, Graduate Medical Education, School of Medicine* B.S., 1953, King College; M.D., 1958, Medical College of Virginia.
- Blevins, Donald Guy (1978) *Clinical Instructor in Pharmacy* B.S., 1963, West Virginia University.
- Blievernicht, Stephen (1978) *Assistant Professor of Surgery* B.A., 1965, Emory University; M.D., 1969, Emory University Medical School.
- Blievernicht, Suzanne H. (1978) *Instructor in Medical-Surgical Nursing* B.S., 1966, Vanderbilt University; M.N., 1966, Emory University.
- Bloom, Valerie L. (1978) *Instructor in Psychiatry* B.S.N., 1971, M.N., 1978, University of Washington.
- Blount, Alston W., Jr. (1972) *Associate Clinical Professor of Medicine* B.S., 1954, Davidson

Board, Administration, and Faculty

- College; M.D., 1958, University of Pennsylvania.
- Blumberg, Michael Z. (1978) *Assistant Professor of Pediatrics* A.B., 1967, Brandeis University; M.D., 1971, Jefferson Medical College.
- Board, John A. (1962) *Professor of Obstetrics and Gynecology* B.S., 1953, Randolph-Macon College; M.D., 1955, Medical College of Virginia.
- Bobbitt, Katherine C. (1965) *Associate Professor of Nursing and Assistant Dean of the Undergraduate Program* B.S., 1956, Medical College of Virginia; M.S., 1965, University of North Carolina.
- Boettcher, Dina S. (1969) *Assistant Clinical Professor of Psychiatry (Psychology)* B.A., 1942, Ohio State University; M.S., 1962, Richmond Professional Institute.
- Bogdanove, Emanuel M. (1971) *Professor of Physiology* B.S., 1946, City College of New York; M.S., 1950, Ph.D., 1953, State University of Iowa.
- Boggs, Harry E., Jr. (1976) *Clinical Instructor in Pedodontics* D.D.S., 1976, Medical College of Virginia of Virginia Commonwealth University.
- Bomberger, Charles A. (1978) *Assistant Professor of Nurse Anesthesia* B.S.N., 1956, Wayne State University; M.S.N., 1968, University of Illinois Medical Center; B.A., 1970, University of Illinois.
- Bond, Judith S. (1968) *Associate Professor of Biochemistry* B.A., 1961, Bennington College; M.S., 1962, Ph.D., 1966, Rutgers University.
- Bones, Joseph T. (1963) *Clinical Instructor in Pediatrics* B.S., 1954, Hampden-Sydney College; M.D., 1958, Medical College of Virginia.
- Bookman, Ada M. (1972) *Assistant Professor of Nursing (Community Health)* R.N., 1947, Grace Hospital; A.A., 1949, Pfeiffer Junior College; B.S., 1951, George Peabody College; M.P.H., 1957, Johns Hopkins University.
- Boone, Elwood (1975) *Clinical Instructor in Surgery (Urology)* A.B., 1965, Colgate University; M.D., 1969, Meharry College.
- Boone, Lewis (1975) *Clinical Instructor in Pharmacy* B.S., 1967, Howard University; M.D., 1971, Meharry Medical College.
- Booth, Jerry C. (1971) *Associate Clinical Professor of Dermatology* B.A., 1959, Virginia Military Institute; M.D., 1963, University of Virginia.
- Booth, John A. (1978) *Instructor in Physical Therapy* B.S., 1975, University of Maryland.
- Boots, Marvin R. (1966) *Associate Professor of Pharmaceutical Chemistry* B.S., 1958, St. Louis College of Pharmacy; M.S., 1960, University of Wisconsin; Ph.D., 1963, University of Kansas.
- Borchert, Lynn G. (1975) *Assistant Professor of Obstetrics and Gynecology* B.Ch.E., 1961, Ohio State University; M.D., 1968, University of Michigan.
- Borland, David S. (1968) *Clinical Professor of Pathology* M.D., 1951, University of Toronto.
- Borzelleca, Joseph F. (1959) *Professor of Pharmacology* B.S., 1952, St. Joseph's College; M.S., 1954, Ph.D., 1956, Thomas Jefferson University.
- Bosch, Herman A. (1973) *Assistant Professor of Radiology* A.B., 1963, Drew University; M.D., 1967, Tufts University School of Medicine.
- Bosher, Lewis H., Jr. (1950) *Professor of Surgery* B.S., 1935, University of Virginia; M.D., 1940, Harvard University.
- Boughman, Joann A. (1978) *Instructor in Human Genetics* B.S., 1972, Ph.D., 1978, Indiana University.
- Bowe, Robert L. (1964) *Associate Professor of Pharmacology* B.S., 1950, M.S., 1957, Boston College; Ph.D., 1960, University of Tennessee.
- Bowen, L. Murray (1968) *Clinical Professor of Psychiatry* B.S., M.D., 1937, University of Tennessee.
- Bowler, Michael W. (1977) *Clinical Instructor in Community Dentistry* B.S., 1971, D.D.S., 1975, Virginia Commonwealth University.
- Boyan, Charles P. (1968) *Professor and Chairman, Department of Anesthesiology* M.D., 1941, University of Sofia, Bulgaria; D.D.S., 1947, University of Graz, Austria.
- Boyer, Allen Stephen (1974) *Clinical Instructor in Medicine* B.A., 1960, Swarthmore College; M.D., 1964, University of Pennsylvania.
- Boyle, Russell M. (1978) *Instructor in Biostatistics* B.A., 1972, Indiana University; M.A., 1975, University of Akron.
- Bradley, S. Gaylen (1968) *Professor and Chairman, Department of Microbiology* B.A., B.S., 1950, State University Southwest Missouri; M.S., 1952, Ph.D., 1954, Northwestern University.
- Bradshaw, James (1978) *Instructor in Radiology* B.S., 1969, Old Dominion University; M.D., 1973, Medical College of Virginia of Virginia Commonwealth University.
- Bragassa, Joseph (1979) *Assistant Clinical Professor of Orthodontics* D.D.S., 1951, Medical College of Virginia.
- Brandt, Richard B. (1971) *Associate Professor of Biochemistry* B.S., 1952, Queens College, New York; M.A., 1961, Brooklyn College, New York; Ph.D., 1968, New York University.
- Bratton, Del Ray (1978) *Clinical Instructor in Community Dentistry* B.S., 1971, Old Dominion University; D.D.S., 1975, Medical College of Virginia of Virginia Commonwealth University.
- Bredrup, Ole C., Jr. (1967) *Assistant Clinical Professor of Radiology* B.S., 1956, Hampden-

Board, Administration, and Faculty

- Sydney College; M.D., 1960, Medical College of Virginia.
- Breindel, Charles L. (1978) *Assistant Professor of Health Administration* B.S., 1970, M.S., 1971, Indiana University of Pennsylvania; M.A., 1972, Ph.D., 1978, Pennsylvania State University.
- Brennan, James F. (1978) *Instructor in Pediatrics* B.S., 1970, Boston College; M.D. 1975, New Jersey College of Medicine and Dentistry.
- Brewer, William H. (1978) *Assistant Professor of Radiology* B.S., 1964, M.D., 1968, Vanderbilt University.
- Briere, Russell O. (1966) *Associate Clinical Professor of Pathology* B.S., 1953, University of Massachusetts; M.D., C.M., 1957, McGill University.
- Briggs, F. Norman (1971) *Professor and Chairman, Department of Physiology* A.B., 1947, M.A., 1948, Ph.D., 1953, University of California.
- Bright, George M. (1968) *Associate Professor of Pediatrics and Director of Adolescent Medicine* B.A., 1957, M.D., 1961, University of Texas.
- Brill, Byron A. (1976) *Assistant Clinical Professor of Periodontics* B.A., 1969, Bridgewater College; D.D.S., 1973, Medical College of Virginia of Virginia Commonwealth University.
- Broadnax, Loretta (1977) *Instructor in Psychiatric-Mental Health Nursing* B.S., 1968, Tuskegee Institute; M.S., 1974, University of Alabama.
- Brobst, David J. (1976) *Instructor in Computer Sciences* B.S., 1968, University of Richmond; M.C.S., 1972, University of Virginia.
- Brocking, Mary C. (1973) *Associate Professor of Nursing* B.S., 1945, M.S.N., 1956, Catholic University of America.
- Brockwell, Arlick L., Jr. (1969) *Associate Professor of Physical Education* B.A., 1958, Duke University; M.E., 1964, University of Virginia.
- Broga, Dean W. (1976) *Assistant Professor of Radiology* B.S., 1974, Lowell Technological Institute; M.S., 1975, University of Lowell.
- Brokaw, William C. (1977) *Clinical Instructor in Restorative Dentistry* B.S., 1960, D.D.S., 1965, Ohio State University.
- Brollier, Chestina L. (1977) *Assistant Professor of Occupational Therapy* B.S., 1966, Kansas University; M.S., 1969, Boston University.
- Broocker, Warren A. (1976) *Clinical Instructor in Obstetrics and Gynecology* B.S., 1969, Muhlenberg College; M.D., 1972, Temple University.
- Brooks, George K., Jr. (1958) *Associate Clinical Professor of Psychiatry* A.B., 1939, University of Richmond; M.D., 1942, Medical College of Virginia.
- Brooks, James W. (1956) *Professor of Surgery, Cardiac and Thoracic* B.S., 1943, The Citadel; M.D., 1946, Medical College of Virginia.
- Brower, Anne C. (1977) *Associate Professor of Radiology* B.A., 1960, Smith College; M.D., 1964, Columbia University.
- Brown, E. Lou (1975) *Assistant Professor of Gerontology* B.S., 1969, Virginia Commonwealth University; M.S., 1971, University of North Carolina.
- Brown, James (1975) *Assistant Clinical Professor of Ophthalmology* B.S., 1965, North Carolina State University; M.D., 1969, Medical College of Virginia of Virginia Commonwealth University.
- Brown, Judith A. (1975) *Professor of Human Genetics and Obstetrics and Gynecology* B.A., 1962, University of Maine; Ph.D., 1970, Indiana University.
- Brown, Margaret (1976) *Clinical Instructor in Pathology* B.A., 1962, Chatham College; M.D., 1967, State University of New York at Buffalo.
- Brown, Peter W. (1978) *Assistant Clinical Professor of Surgery* M.D., 1967, Emory University.
- Brown, Richard T. (1975) *Clinical Instructor in Pharmacy* A.B., 1950, Washington and Lee University; B.S., 1955, Medical College of Virginia.
- Brown, Stephen C. (1979) *Clinical Instructor in Restorative Dentistry* B.S., 1973; D.D.S., 1978, Medical College of Virginia of Virginia Commonwealth University. Virginia Polytechnic Institute and State University
- Brown, William H. (1975) *Clinical Instructor in Restorative Dentistry* D.D.S., 1972, Medical College of Virginia of Virginia Commonwealth University.
- Brown, William M. (1978) *Instructor in Medicine* B.S., 1970, Virginia Polytechnic Institute and State University; M.D., 1974, Medical College of Virginia of Virginia Commonwealth University.
- Brownstein, Marshall (1975) *Assistant Professor of Pedodontics* B.S., 1963, D.D.S., 1973, University of Maryland.
- Bruch, William M. (1974) *Associate Professor of Pediatrics* B.A., 1942, University of Richmond; M.D., 1945, Medical College of Virginia.
- Brummer, Donald L. (1956) *Associate Professor of Medicine and Preventive Medicine* B.A., 1941, University of Virginia; M.D., 1945, New York University.
- Brush, John J. (1978) *Assistant Professor of Neurology* B.S., 1966, M.D., 1970, Marquette University.
- Bryson, Gilbert H. (1966) *Associate Clinical Professor of Surgery* B.S., 1958, M.D., 1959, Medical College of Virginia.

Board, Administration, and Faculty

- Budd, Samuel W., Jr. (1958) *Clinical Associate in Medicine* B.A., 1938, M.D., 1942, Yale University.
- Buis, L. James (1958) *Clinical Associate in Medicine* A.B., 1933, B.S., 1934, M.D., 1937, University of Nebraska.
- Bullock, John B. (1958) *Clinical Associate in Medicine* B.A., 1946, University of Richmond; M.D., 1948, University of Maryland.
- Bundy, Walter E., Jr. (1954) *Clinical Professor of Pediatrics* A.B., 1943, Emory University; M.D., 1945, Medical College of Virginia.
- Bunting, Richard F. (1966) *Assistant Clinical Professor of Ophthalmology* A.B., 1951, University of North Carolina; M.D., 1961, University of Virginia.
- Burch, Charles D., III (1959) *Assistant Clinical Professor of Pediatrics* B.S., 1950, Virginia Polytechnic Institute; M.D., 1954, Medical College of Virginia.
- Burke, Arthur W. (1975) *Assistant Professor of Radiology* B.A., 1947, M.A., 1948, University of Virginia; Ph.D., 1957, University of St. Louis; M.D., 1960, Medical College of Virginia.
- Burke, George W., III (1977) *Assistant Professor of Medicine* M.D., 1970, Medical College of Virginia of Virginia Commonwealth University.
- Burke, George W., Jr. (1946) *Professor of Restorative Dentistry and Lecturer in Anatomy* B.S., 1941, University of Virginia; D.D.S., 1944, Medical College of Virginia.
- Burke, James O. (1958) *Associate Clinical Professor of Medicine* B.S., 1933, Virginia Military Institute; M.D., 1937, Medical College of Virginia.
- Burke, Patrick K. (1976) *Assistant Clinical Professor of Medicine* B.S., 1963, University of Richmond; M.D., 1968, Medical College of Virginia of Virginia Commonwealth University.
- Burmeister, John (1977) *Assistant Professor of Periodontics* A.B., 1965, Wittenberg University; D.D.S., 1970, Ohio State University; M.S., 1977, Medical College of Virginia of Virginia Commonwealth University.
- Burns, James C. (1978) *Assistant Professor of Oral Pathology* B.S., 1968, Virginia Military Institute; D.D.S., 1972, Medical College of Virginia of Virginia Commonwealth University; M.S.Ed., 1975, University of Southern California.
- Burrage, Mary Ella (1977) *Clinical Instructor in Occupational Therapy* B.A., 1957, University of Tennessee; B.S., 1961, Virginia Commonwealth University.
- Burton, William S. (1968) *Associate Clinical Professor of Medicine* B.A., 1953, M.D., 1955, Medical College of Virginia.
- Bush, Francis M. (1975) *Associate Professor of Occlusion* B.S., 1955, M.S., 1957, University of Kentucky; Ph.D., 1962, University of Georgia; D.M.D., 1975, University of Kentucky.
- Bussey, William F. (1972) *Assistant Clinical Professor of Endodontics* B.S., 1963, D.D.S., 1967, University of Maryland.
- Buston, Jameson G., II (1975) *Assistant Clinical Professor of Family Practice* B.S., 1958, Hampden-Sydney; M.D., 1963, Medical College of Virginia.
- Butcher, Ronald H. G. (1973) *Associate Professor of Psychiatry* M.D., 1951, St. Bartholomews Hospital School of Medicine, London.
- Butler, James H. (1974) *Associate Professor and Chairman, Division of Occlusion* B.A., 1958, Denison University; D.D.S., 1962, Ohio State University; M.S., 1967, University of Rochester.
- Butterworth, John F., III (1958) *Assistant Clinical Professor of Orthopedic Surgery* B.S., 1948, University of Richmond; M.D., 1952, Medical College of Virginia.
- Butterworth, Reynoldson D. (1958) *Associate Clinical Professor of Orthopedic Surgery* B.S., 1929, Randolph-Macon College; M.D., 1931, Medical College of Virginia.
- Button, Gilbert L. (1976) *Assistant Professor of Restorative Dentistry* B.S., 1969, Virginia Polytechnic Institute and State University; D.D.S., 1973, Medical College of Virginia of Virginia Commonwealth University.
- Butts, Frank M. (1978) *Assistant Professor of Otolaryngology* B.S., 1970, West Virginia University; M. Ed., 1971, University of Virginia.
- Buxton, Ernest P., Jr. (1958) *Assistant Clinical Professor of Medicine* B.A., 1929, University of Richmond; M.D., 1933, Medical College of Virginia.
- Byrd, Charles W. (1958) *Clinical Associate in Surgery* B.S., 1939, University of Georgia; M.D., 1943, Medical College of Virginia.
- Byrne, B. Ellen (1977) *Instructor in Pharmacy and Pharmaceutics* B.S., 1977, Medical College of Virginia of Virginia Commonwealth University.
- Cabral, Francine M. (1979) *Instructor in Microbiology* B.S., 1966, College of White Plains; M.S., 1968, Villanova University; Ph.D., 1973, University of Connecticut.
- Cabral, Guy Anthony (1978) *Assistant Professor of Microbiology* B.S., 1967, University of Massachusetts; M.S., 1970, Ph.D., 1973, University of Connecticut.
- Cabrera, Juan Jose (1971) *Assistant Clinical Professor of Radiology* B.S., 1956, Lices Secundario, Dominican Republic; M.D., 1962, University of Madrid, Spain.
- Cade, Ronald E. (1978) *Assistant Professor of Removable Prosthodontics* B.A., 1971, Ohio

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- State University; D.M.D., 1976, University of Pittsburgh; M.S., 1978, Ohio State University.
- Cain, Marlyne G. (1978) *Instructor in Patient Counseling* B.S., 1961, University of South Dakota; M.Div., 1967, Yale University Divinity School; Th.M., 1970, Princeton Theological Seminary.
- Calabrese, Vincent P. (1972) *Associate Professor of Neurology* A.B., 1961, Columbia College; M.D., 1965, State University of New York.
- Calderon, Jewell R. (1974) *Assistant Professor of Nursing* B.S.N., 1967, M.S., 1970, University of Maryland.
- Caldwell, John B. (1970) *Assistant Clinical Professor in Ophthalmology* B.S., 1959, Davidson College; M.D., 1963, Johns Hopkins University.
- Calhoun, Richard L. (1977) *Clinical Instructor in Endodontics* B.S., 1970, Oregon State University; D.M.D., 1974, University of Oregon School of Dentistry.
- Calkins, Ronald F. (1967) *Assistant Clinical Professor of Radiology* B.S., 1952, M.D., 1955, University of Tennessee.
- Callery, William F. (1976) *Clinical Instructor in Pedodontics* B.S., 1969, Eastern Tennessee State University; D.D.S., 1976, Medical College of Virginia of Virginia Commonwealth University.
- Campbell, Eleanor D. (1959) *Instructor in Biostatistics* B.S., 1959, University of Richmond.
- Campbell, Robert L. (1977) *Associate Professor of Oral Surgery, Surgery, and Anesthesia in School of Medicine* B.S., 1964, John Carroll University; D.D.S., 1968, Case Western Reserve University.
- Campbell, Ruth W. (1962) *Associate Professor of Pediatrics* B.S., 1953, Mary Washington College; M.D., 1957, Medical College of Virginia.
- Cannaday, Jack V. (1977) *Clinical Instructor in Community Dentistry* D.M.D., 1942, University of Louisville.
- Caravati, Charles M., Jr. (1969) *Associate Clinical Professor of Dermatology* B.A., 1959, M.D., 1963, University of Virginia.
- Carchman, Richard A. (1974) *Assistant Professor of Pharmacology* B.S., 1966, Long Island University; Ph.D., 1972, State University of New York.
- Cardea, John (1973) *Associate Professor and Chairman, Division of Orthopedic Surgery* M.D., 1966, West Virginia University Medical School.
- Carithers, Robert D. (1976) *Instructor in Medicine* B.A., 1965, University of North Carolina; M.D., 1969, University of Pennsylvania.
- Carpenter, Earnest B. (1954) *Clinical Professor of Orthopedic Surgery* B.S., 1932, M.S., 1933, Duke University; M.D., 1940, University of Cincinnati.
- Carr, Alfred K. (1978) *Instructor in Nurse Anesthesia* B.S.N., 1975, Medical College of Virginia of Virginia Commonwealth University; Certificate, 1977, Geisinger Medical Center (Nurse Anesthesia).
- Carr, J., Francis F. (1972) *Assistant Professor of Oral Pathology* D.D.S., 1963, Medical College of Virginia; B.S., 1964, M.A., 1971, University of Richmond.
- Carrigan, Edward (1979) *Clinical Instructor in Surgery* MB.Ch.B., 1952, University of Liverpool; M.I.H., 1960, Harvard University; LMCC, 1966, University of Ottawa.
- Carroll, George J., II (1965) *Clinical Professor of Pathology* A.B., 1930, Clark University; M.D., 1944, George Washington University.
- Carson, Jacqueline M. (1979) *Clinical Instructor in Pharmacy* B.S., 1955, Howard University.
- Carter, B. Noland, II (1959) *Associate Clinical Professor of Surgery* B.A., 1947, University of Virginia; M.D., 1951, Johns Hopkins University.
- Carter, Walter H., Jr. (1968) *Professor of Biometry* B.S., 1963, University of Richmond; M.S., 1966, Ph.D., 1968, Virginia Polytechnic Institute and State University.
- Carter, Wesley B. (1976) *Assistant Clinical Professor of Psychiatry* B.S., 1964, Virginia Union University; M.D., 1968, Medical College of Virginia of Virginia Commonwealth University.
- Carter, William E. (1977) *Assistant Professor of Health Administration* B.S., 1965, Virginia Polytechnic Institute and State University; MBA, 1968, University of Virginia.
- Caspari, Richard B. (1974) *Clinical Instructor in Orthopedic Surgery* B.S., 1962, M.D., 1966, University of Florida.
- Castronovo, Francesca H. (1978) *Assistant Professor of Medical-Surgical Nursing* B.S., 1967, Cornell University; M.A., 1970, New York University; M.A., 1974, Ed.D., 1978, Teachers College of Columbia University.
- Catlett, John B. (1958) *Assistant Clinical Professor of Medicine* M.D., 1950, University of Virginia.
- Cauble, Clarence F. (1971) *Lecturer in Hospital Administration* R.R.A., 1950, Duke University and American Association of Medical Record Administration.
- Cavalcanti, Eduardo (1976) *Clinical Instructor in Radiology* M.D., 1950, Rosario School of Medicine; M.P.H., 1962, Buenos Aires University; M.S.H.A., 1966, Columbia University.
- Cavallaro, Carl J. (1976) *Assistant Clinical Professor of Periodontics* B.S., 1957, University

Board, Administration, and Faculty

- of Maryland; D.D.S., 1961, New Jersey College of Dentistry.
- Centor, Arthur (1966) *Assistant Clinical Professor of Psychiatry (Psychology)* B.S., 1950, M.S., 1951, City College of New York; Ph.D., 1965, New York University.
- Cerny, Jean Frances (1978) *Instructor in Occupational Therapy* B.S., 1973, Virginia Commonwealth University.
- Cessna, Larry D. (1971) *Assistant Professor of Pharmacy* B.S., 1965, University of Kansas; M.S., 1967, Philadelphia College of Pharmacy and Science.
- Chalkley, Thomas S. (1956) *Assistant Clinical Professor of Pediatrics* B.S., 1935, University of Kentucky; M.D., 1940, University of Louisville.
- Chan, James C. M. (1977) *Professor of Pediatrics* M.D., C.M., 1964, McGill University, Canada.
- Chan, Winnie Man-Yee (1978) *Instructor in Biochemistry* B.S., 1967, Oregon State University; M.S., 1969, Columbia University; D.P.H., 1974, University of California at Los Angeles.
- Chapman, Stewart W. (1977) *Clinical Instructor in Pharmacy* B.S., 1975, Medical College of Virginia of Virginia Commonwealth University.
- Chappell, Patricia T. (1978) *Lecturer in Medical Technology* B.S.M.T., 1970, Medical College of Virginia of Virginia Commonwealth University.
- Charlton, James P. (1974) *Associate Clinical Professor of Family Practice* B.S., 1951, Roanoke College; M.D., 1955, Medical College of Virginia.
- Chatelain, Fred (1977) *Clinical Instructor in Pharmacy* B.S., 1962, University of Texas.
- Chau, Thuy T. (1977) *Assistant Professor of Pharmacology* B.S., 1966, University of Saigon; M.S., 1968, University of Hawaii; Ph.D., 1972, University of North Carolina.
- Chen, Jen-Wen (1977) *Assistant Professor of Anesthesiology* M.D., 1970, Taipei Medical College, Taiwan, Republic of China.
- Chen, Yuh Teh (1976) *Instructor in Rehabilitation Medicine* M.D., 1970, Medical College of National Taiwan University.
- Cheney, H. Gordan (1971) *Associate Professor and Chairman, Department of General and Preventive Dentistry* D.D.S., 1955, University of Maryland; A.B., 1965, State University of New York at Buffalo; M.P.H., 1970, University of Michigan.
- Cherry, Kenneth J. (1958) *Assistant Clinical Professor of Surgery* M.D., 1939, Medical College of Virginia.
- Chewning, Clarence C., Jr. (1958) *Clinical Associate in Surgery (Proctology)* B.S., 1931, University of Richmond; M.D., 1934, Medical College of Virginia.
- Ching, Melvin C. H. (1978) *Associate Professor of Anatomy* A.B., 1957, M.S., 1960, University of Nebraska; Ph.D., 1971, University of California, Berkeley.
- Chlebowski, Jan F. (1979) *Assistant Professor of Biochemistry* B.A., 1965, St. Mary's College; Ph.D., 1969, Case Western Reserve University.
- Cho, Shao-Ru (1978) *Assistant Professor of Radiology* M.B., 1965, National Defense Medical Center, Taipei, Taiwan.
- Choi, Sung C. (1978) *Professor of Biostatistics* B.S., 1957, M.A., 1960, University of Washington; Ph.D., 1966, University of California.
- Chremos, Athanassios N. (1973) *Assistant Clinical Professor of Medicine* M.D., 1956, National University of Athens Medical School.
- Christian, Charles F. (1971) *Associate Clinical Professor of Psychiatry* B.S., 1950, Virginia State College; M.D., 1962, Medical College of Virginia.
- Christian, Frances M. (1976) *Instructor in Psychiatry* B.A., 1972, Howard University; M.S., 1974, University of Michigan.
- Christie, Laurence G., Jr. (1963) *Clinical Instructor in Surgery* B.S., 1953, Washington and Lee University; M.D., 1957, Medical College of Virginia.
- Chu, Young Kwon (1973) *Assistant Clinical Professor of Anesthesiology* M.D., 1964, Soo Do Medical College, Korea.
- Chun, Thomas H. (1977), *Clinical Professor of Anesthesiology* M.D., 1952, Seoul National University, Korea.
- Cimmino, Christian V. (1954) *Clinical Professor of Radiology* A.B., 1937, Harvard University; M.D., 1941, Johns Hopkins University.
- Claiborne, Herbert A., Jr. (1962) *Associate Clinical Professor of Obstetrics and Gynecology* M.D., 1947, B.A., 1949, University of Virginia.
- Clamann, H. Peter (1973) *Associate Professor of Physiology* B.S., 1961, St. Mary's University; Ph.D., 1967, Johns Hopkins University.
- Clark, Frederick A., Jr. (1961) *Associate Clinical Professor of Medicine* M.D., 1947, Indiana University; M.P.H., 1954, University of North Carolina.
- Clark, Mark W. (1977) *Assistant Professor of Medicine* B.A., 1970, Columbia University; M.D., 1974, Harvard University.
- Clark, Richard F. (1964) *Associate Clinical Professor of Pathology* B.S., 1954, College of William and Mary; M.D., 1958, Medical College of Virginia.
- Clarke, Alexander M. (1964) *Associate Professor of Biophysics* B.S., 1958, Virginia Military Institute; M.S., 1960, Ph.D., 1963, University of Virginia.

Board, Administration, and Faculty

- Clarke, Bernardine A. (1975) *Assistant Professor of Maternal-Child Nursing* B.S., 1953, Duke University School of Nursing.
- Clarke, William T. (1961) *Clinical Instructor in Otolaryngology* B.S., 1952, Hampden-Sydney College; M.D., 1957, University of Virginia.
- Clary, Beverley B. (1958) *Clinical Professor of Orthopedic Surgery* M.D., 1939, Medical College of Virginia.
- Cleary, Stephen F. (1964) *Professor of Biophysics* B.S., 1958, New York University; M.S., 1960, University of Rochester; Ph.D., 1964, New York University.
- Clegg, Roberta L. (1978) *Associate Professor of Community Health Nursing* B.S., 1954, University of Utah; M.S., 1959, University of Colorado; Ph.D., 1972, University of Maryland.
- Clements, Dolores P. (1977) *Clinical Instructor in Pharmacy* B.S., 1964, Medical College of Virginia.
- Clements, Ernest L., Jr. (1964) *Clinical Instructor in Orthopedic Surgery* B.S., 1953, M.D., 1955, Medical College of Virginia.
- Clough, Charles E. (1972) *Assistant Clinical Professor of Oral Surgery* B.S., 1962, University of Richmond; D.D.S., 1966, Medical College of Virginia.
- Clower, Virginia L. (1975) *Clinical Professor of Psychiatry* B.A. 1941, Agnes Scott College; M.D., 1944, Tulane University.
- Coates, Thomas F., Jr. (1958) *Clinical Associate in Psychiatry* B.S., 1936, Hampden-Sydney College; M.D., 1941, Medical College of Virginia.
- Cohen, Charles A. (1968) *Associate Professor of Rehabilitation Medicine* B.A., 1947, University of Southern California; M.D., 1954, University of Lausanne.
- Cohen, Irwin K. (1972) *Professor of Surgery and Chairman, Division of Plastic Surgery* B.S., 1959, Columbia University; M.D., 1963, University of North Carolina.
- Coleman, Claude C., Jr. (1964) *Associate Clinical Professor of Surgery* B.S., 1943, University of Virginia; M.D., 1946, Medical College of Virginia.
- Coleman, Custis L. (1958) *Clinical Professor of Surgery* M.D., 1943, Medical College of Virginia; B.A., 1944, University of Virginia.
- Coleman, Philip H. (1969) *Professor of Microbiology and Director, Central Animal Facilities* D.V.M., 1956, University of Georgia; M.S., Ph.D., 1959, University of Wisconsin.
- Collins, James M. (1969) *Associate Professor of Biochemistry* B.S., 1962, University of Southern Mississippi; Ph.D., 1968, University of Tennessee.
- Collins, Judith B. (1974) *Associate Professor of Nursing* B.S., 1962, University of North Carolina; M.S., 1968, Boston University.
- Comer, William M. (1971) *Assistant Clinical Professor of Orthodontics* B.S., 1953, D.D.S., 1955, Medical College of Virginia.
- Concorda, Joseph L. (1978) *Instructor in Surgery-Division of Urology* B.A., 1969, Seton Hall University; M.D., 1973, Medical College of Virginia of Virginia Commonwealth University.
- Conquest, Henry Fairfax (1962) *Associate Clinical Professor of Surgery* A.B., 1950, Princeton University; M.D., 1954, University of Virginia.
- Conrad, Daniel H. (1978) *Assistant Professor of Microbiology* B.S., 1970, West Virginia Wesleyan College; Ph.D., 1973, West Virginia University.
- Cooke, Charles L. (1969) *Associate Professor of Medicine* B.S., 1959, Davidson College; M.D., 1963, University of North Carolina.
- Cooke, Jane K. (1974) *Assistant Clinical Professor of Psychiatry (Psychology)* A.B., 1959, Queens College; M.A., 1964, University of North Carolina.
- Coogan, Emily (1976) *Assistant Professor of Maternal-Child Nursing* B.S., 1972, M.S., 1976, Medical College of Virginia of Virginia Commonwealth University.
- Conway, Arthur F. (1977) *Instructor in Anatomy* B.S., 1968, College of William and Mary; Ph.D., 1973, University of Miami.
- Corey, Linda A. (1976) *Assistant Professor of Human Genetics* B.S., 1970, St. Francis College; M.S., 1972, Ph.D., 1974, North Carolina State University.
- Corley, Karl C. (1965) *Assistant Professor of Physiology* B.S., 1958, Trinity College; Ph.D., 1964, University of Rochester.
- Cosnotti, Samuel J. (1975) *Clinical Instructor in Pharmacy* B.S., 1962, Duquesne University.
- Counts, Charles R. (1977) *Clinical Instructor in Restorative Dentistry* B.S., 1968, American University; D.D.S., 1976, Medical College of Virginia.
- Covington, William D. (1971) *Assistant Clinical Professor of Restorative Dentistry* D.D.S., 1962, Medical College of Virginia.
- Cowley, Michael (1977) *Assistant Professor of Medicine* M.D., 1972, University of Alabama School of Medicine.
- Cox, Larry H. (1978) *Instructor in Internal Medicine* B.S., 1970, Virginia Polytechnic Institute and State University; M.D., 1974, Medical College of Virginia of Virginia Commonwealth University.
- Cox, P. Stuart (1979) *Clinical Instructor in Community Dentistry* B.S., 1972, Emory and Henry; D.D.S., 1976, Medical College of Virginia of Virginia Commonwealth University.

Board, Administration, and Faculty

- Cox, Phyllis H. (1973) *Assistant Professor of Library Sciences* B.A., 1969, Virginia Commonwealth University; M.S., 1972, University of North Carolina.
- Coxe, Joseph W., III (1958) *Clinical Professor of Surgery* B.A., 1943, Hampden-Sydney College; M.D., 1946, Johns Hopkins University.
- Crabtree, Donald G. (1974) *Assistant Professor of Removable Prosthodontics* B.S., 1962, Muskingum College; D.D.S., 1966, Northwestern University.
- Creech, Henry B. (1966) *Clinical Associate in Otolaryngology (Audiology)* B.S., 1958, East Carolina College; M.A., 1959, Ph.D., 1962, Ohio State University.
- Crews, John W. (1975) *Lecturer in Legal Medicine* B.S., 1966, Lynchburg College; J.D., 1969, University of Richmond; M.Sc.Hyg., 1970, University of Pittsburgh.
- Crickenberger, Samuel W. (1973) *Clinical Instructor in Pharmacy* B.S., 1952, University of Virginia; B.S., 1957, Medical College of Virginia.
- Criss, Robert Lee (1978) *Instructor in Pharmacy* B.S., 1963, West Virginia University.
- Crist, George B. (1975) *Clinical Instructor in Restorative Dentistry* B.S., 1951, Virginia Polytechnic Institute; D.D.S., 1955, Medical College of Virginia.
- Crockett, Willie D. (1954) *Professor and Acting Chairman of Restorative Dentistry* B.S., 1943, University of Virginia; D.D.S., 1947, Medical College of Virginia.
- Crooks, L. Daniel, Jr. (1973) *Clinical Instructor in Dentistry* B.S., 1970, University of Richmond; D.D.S., 1976, Medical College of Virginia of Virginia Commonwealth University.
- Crooks, L. Daniel, Jr. (1973) *Clinical Instructor in Obstetrics and Gynecology* B.S., 1966, Richmond Professional Institute; M.D., 1970, Medical College of Virginia of Virginia Commonwealth University.
- Crosier, Joseph L. (1978) *Instructor in Surgery (Orthopedics)* B.S., 1959, University of Richmond; M.D., 1963, Medical College of Virginia.
- Cross, J. Parker, Jr. (1977) *Associate Clinical Professor of Otolaryngology* B.A., 1953, Virginia Military Institute; M.D., 1957, University of Virginia; M.S., 1964, University of Minnesota.
- Cross, Sue S. (1975) *Assistant Professor of Pathology* B.A., 1961 East Carolina University; M.S., 1967, Ph.D., 1973, George Washington University.
- Crouch, William M. (1973) *Assistant Clinical Professor of Surgery* B.S., 1961, Davidson College; M.D., 1965, Medical University of South Carolina.
- Crowder, Dorothy S. (1977) *Assistant Professor of Nursing (Maternal-Child)* B.S., 1974, M.S., 1976, Medical College of Virginia of Virginia Commonwealth University.
- Crummette, Beauty D. (1964) *Associate Professor of Nursing* B.S., 1958, Medical College of Virginia; M.A., 1962, Columbia University.
- Cullen, Benjamin T., Jr. (1960) *Assistant Dean, School of Allied Health Professions and Professor of Health Administration* B.S., 1944, Virginia Polytechnic Institute; M.A., 1950, Ed.D., 1967, University of Virginia.
- Cundiff, William Edwin (1978) *Instructor in Pharmacy* B.S., 1967, Medical College of Virginia.
- Cupit, Linda G. (1976) *Instructor in Maternal-Child Nursing* B.S., 1971, M.S., 1976, Medical College of Virginia of Virginia Commonwealth University.
- Curry, William L. (1964) *Clinical Associate in Pediatrics* B.S., 1959, West Virginia University; M.D., 1961, Medical College of Virginia.
- Cushine, Patricia (1976) *Assistant Professor of Educational Planning and Development* B.S., 1970, M.Ed., 1974, Medical College of Virginia of Virginia Commonwealth University.
- Cuttino Charles L., III (1972) *Assistant Clinical Professor of Oral Surgery* D.D.S., 1966, Medical College of Virginia.
- Dabney, William T., III (1957) *Associate Professor of Medicine (Hematology)* M.D., 1954, Medical College of Virginia.
- Dalton, Harry P. (1965) *Professor of Clinical Pathology and Microbiology* A.B., 1952, American International College; M.S., 1956, Ph.D., 1962, University of Massachusetts.
- Dalton, James B., Jr. (1958) *Assistant Clinical Professor of Orthopedic Surgery* M.D., 1948, University of Maryland.
- Daniel, Thomas M. (1976) *Clinical Instructor in Surgery* A.B., 1960, Princeton University; M.D., 1964, University of Virginia.
- Darden, James R., Jr. (1972) *Assistant Clinical Professor of Surgery* B.S., 1954, Randolph-Macon College; M.D., 1958, Medical College of Virginia.
- David, Marigail Wynne (1975) *Assistant Clinical Professor of Family Practice* A.B., 1964, University of Rochester; M.D. 1968, Duke University.
- Davidson, Donald (1978) *Instructor in Surgery* B.S., 1965, Davidson College; M.D., 1969, University of Pennsylvania.
- Davis, Charles R. (1973) *Clinical Instructor in Pharmacy* B.S., 1956, Medical College of Virginia.
- Davis, Edward G., Jr. (1954) *Clinical Associate in Pediatrics* M.D., 1945, Medical College of Virginia.
- Davis F. Sterling, Jr. (1964) *Assistant Clinical Professor of Ophthalmology* B.A., 1951,

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- University of Richmond; M.D., 1955, University of Virginia.
- Davis, Phillip R. (1977) *Clinical Instructor in Community Dentistry* B.S., 1967, D.D.S., 1972, Medical College of Virginia of Virginia Commonwealth University.
- Davis, Ronald G. (1977) *Clinical Instructor in Pharmacy* B.S., 1973, Medical College of Virginia of Virginia Commonwealth University.
- Davis, Ronald K. (1969) *Associate Clinical Professor of Surgery* M.D., 1963, Medical College of Virginia.
- Davis, Thomas D., Jr. (1962) *Clinical Instructor in Medicine* M.D., 1921, Medical College of Virginia.
- Day, Alan (1978) *Assistant Professor of Pharmacology* B.Sc., 1969, Liverpool College of Technology, England; D.Phil., 1973, University of Sussex, England.
- Dayal, Hari H. (1977) *Associate Professor of Biostatistics* B.Sc., 1961, Agra University, India; M.Sc., 1963, Institute of Social Sciences, Agra, India; Ph.D., 1972, State University of New York.
- Debrand, Maria (1972) *Assistant Professor of Anesthesiology* M.D., 1967, Academy of Medicine, Warsaw, Poland.
- Decker, Michael J. (1977) *Clinical Instructor in Rehabilitation Medicine* B.A., 1965, Miami University; M.S., 1969, Purdue University; M.D., 1971, Case Western Reserve University.
- Deep, Anthony A. (1967) *Clinical Instructor in Obstetrics and Gynecology* B.A., 1952, University of Richmond; M.D., 1956, Medical College of Virginia.
- Deep, William D. (1967) *Assistant Clinical Professor of Medicine* B.A., 1955, University of Richmond; M.D., 1959, Medical College of Virginia.
- de la Burde, Brigitte E. (1962) *Assistant Clinical Professor of Pediatrics* M.D., 1953, Philipps University, Germany.
- Delap, James N. (1973) *Instructor in Nurse Anesthesia* R.N., 1958, University of Rochester; C.R.N.A., 1967, Anesthesiology for Army Nurse Corps Officers, Tripler Army Medical Center.
- DelSordo, Andrew A. (1975) *Associate Clinical Professor of Family Practice* B.A., 1965, St. Vincent College; M.D., 1969, Medical College of Virginia of Virginia Commonwealth University.
- Dent, Charles D. (1975) *Clinical Instructor in Restorative Dentistry* B.A., 1970, University of Virginia; D.D.S., 1974, Medical College of Virginia of Virginia Commonwealth University.
- Deputy, Byard S. (1973) *Clinical Professor of General and Preventive Dentistry* B.S., 1950, Madison College; D.D.S., 1954, Medical College of Virginia.
- DeSimone, John A. (1974) *Associate Professor of Physiology* B.A., 1964, State University of New York; Ph.D., 1970, Harvard University.
- Devlin, James T. (1974) *Associate Clinical Professor of Family Practice* B.S., 1961, Bates College; M.D., 1966, Bowman-Gray School of Medicine.
- DeVries, George H. (1972) *Associate Professor of Biochemistry* B.S., 1964, Wheaton College; Ph.D., 1969, University of Illinois.
- Dewey, William L. (1972) *Professor of Pharmacology* B.S., 1957, St. Bernardine of Siena College; M.S., 1964, The College of Saint Rose; Ph.D., 1967, University of Connecticut.
- DeWitt, Gerald W. (1977) *Associate Clinical Professor of Family Practice* B.A., 1965, M.D., 1969, University of Virginia.
- Deyerle, W. Minor (1956) *Clinical Professor of Orthopedic Surgery* M.D., 1940, University of Virginia.
- Diasio, Robert (1976) *Assistant Professor of Medicine* B.A., 1967, University of Rochester; M.D., 1971, Yale University.
- Diegelmann, Robert F. (1972) *Assistant Professor of Surgery and Biochemistry* B.S., 1965, Mount Saint Marys College; Ph.D., 1970, Georgetown University.
- Diehl, Linda N. (1975) *Clinical Instructor in Rehabilitation Medicine and Clinical Specialist in Rehabilitation Nursing* B.S.N., 1966, Seton Hall University; M.S., 1975, Boston University.
- Dillon, William A. (1977) *Clinical Instructor in Pharmacy* B.S., 1952, University of Toledo.
- Dimacali, Mario (1976) *Clinical Instructor in Otolaryngology, Rhinology, and Laryngology* M.D., 1968, University of Eastman Medical Center.
- Dingledine, William S. (1958) *Clinical Associate in Medicine* B.A., 1948, M.D., 1951, University of Virginia.
- Dinius, Ann (1969) *Associate Professor of Dental Hygiene and Director, Division of Dental Hygiene* B.S., 1959, University of Michigan; M.S., 1965, Columbia University.
- Dionne, Raymond A. (1978) *Assistant Clinical Professor of Oral Surgery* B.A., 1968, University of Connecticut; D.D.S., 1972, M.S., 1975, Georgetown University.
- Dixon, Dwight D. (1978) *Associate Professor of Medical Record Administration* B.B.A., 1963, Baruch College, City University of New York; M.Ed., 1976, Antioch College.
- Dodd, Richard W. (1962) *Clinical Instructor in Otolaryngology* B.S., 1951, Roanoke College; M.D., 1955, Medical College of Virginia.
- Dodini, Luann K. (1975) *Assistant Professor of Pharmacy* Pharm.D., 1970, School of Pharmacy, University of California; M.S., 1975, University of Rochester.
- Dodson, Austin I., Jr. (1957) *Associate Clinical Professor of Surgery (Urology)* B.S., 1943,

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- Dorfman, Howard S. (1973) *Associate Professor of Periodontics* B.S., 1965, Bates College; D.M.D., 1969, Tufts Dental School.
- dos Santos, Joao Gustavo (1952) *Professor of Clinical Pathology* M.D., 1948, University of Bahia, Bahia, Brazil.
- Douglas, Hugh B., Jr. (1970) *Assistant Professor of Restorative Dentistry* B.S., D.D.S., 1970, Medical College of Virginia of Virginia Commonwealth University.
- Douglas, Pamela K. (1974) *Assistant Professor of Nursing* B.S., 1970, M.S., 1972, Medical College of Virginia of Virginia Commonwealth University.
- Downs, Shirley T. (1965) *Assistant Professor of Nursing and Assistant Dean, School of Nursing* B.S., 1949, Richmond Professional Institute; M.Ed., 1964, College of William and Mary.
- Doyle, Margaret P. (1977) *Assistant Professor of Medicine and Center for Community Health* B.S., 1959, St. Francis Xavier University, Nova Scotia; M.S., 1967, University of Michigan; FNP, 1976, Medical College of Virginia of Virginia Commonwealth University.
- Doyle, Thomas E. (1977) *Assistant Clinical Professor of Pedodontics* B.S., 1969, University of Miami; D.D.S., 1972, Medical College of Virginia of Virginia Commonwealth University.
- Draper, David A. (1964) *Professor of Pediatrics and Pathology* M.D.C.M., 1958, Queens University, Ontario.
- Draper, Walter (1970) *Associate Professor and Chairman, Division of Child Psychiatry* B.S., 1951, University of Richmond; M.D., 1955, Medical College of Virginia.
- Drescher, Charles A. (1973) *Assistant Clinical Professor of Periodontics* B.A., 1961, Virginia Military Institute; D.D.S., 1965, Medical College of Virginia.
- Driska, Steven P. (1979) *Assistant Professor of Physiology* B.S., 1970, Canisius College; M.S., 1975 Ph.D., 1976, Carnegie Mellon University.
- Drummond, Charles S., Jr. (1969) *Assistant Clinical Professor of Surgery* B.S., 1958, Davidson College; M.D., 1962, Harvard University.
- Dugger, Richard W. (1977) *Clinical Instructor in Pharmacy* B.S., 1974, Medical College of Virginia of Virginia Commonwealth University.
- Duff, J. Scott, Jr. (1971) *Assistant Clinical Professor of Restorative Dentistry* D.D.S., B.S., 1955, Medical College of Virginia.
- Duma, Richard J. (1967) *Professor of Medicine and Pathology* B.S., 1955, Virginia Polytechnic Institute; M.D., 1959, University of Virginia.
- Dunn, Barbara H. (1976) *Assistant Professor of Maternal-Child Nursing* B.S., 1970, Medical College of Virginia of Virginia Commonwealth University; M.S., 1974, University of Virginia.
- Dunn, Leo J. (1967) *Professor and Chairman, Department of Obstetrics and Gynecology* B.A., 1952, Hofstra University; M.D., 1956, Columbia University.
- Dunnington, Judith S. (1977) *Instructor in Medicine* A.B., 1962, M.D., 1972, Medical College of Virginia of Virginia Commonwealth University.
- Dunnington, Gansevoort H. (1977) *Assistant Clinical Professor of Medicine* B.A., 1968, Duke University; M.D., 1972, Medical College of Virginia of Virginia Commonwealth University.
- Dutz, Werner (1974) *Professor of Pathology* M.D., 1953, University of Vienna.
- DuVall, Donald L. (1976) *Assistant Clinical Professor of Orthodontics* A.B., 1966, College of William and Mary; D.M.D., 1970, New Jersey College of Dentistry.
- Dwyer, James H. (1959) *Clinical Associate in Pediatrics* B.S., 1951, University of Richmond; M.D., 1954, Medical College of Virginia.
- Eagles, William M. (1962) *Assistant Clinical Professor of Neurological Surgery* A.B., 1940, M.D., 1943, Duke University.
- Eanes, Joan E. (1960) *Associate Professor of Community Health Nursing* B.S., 1949, Medical College of Virginia; M.P.H., 1958, University of Michigan.
- Eanes, Robert Z. (1972) *Assistant Professor of Pediatrics* B.A., 1955, M.A., 1957, M.D., 1960, University of Texas.
- East, James M. (1977) *Assistant Professor of Anatomy* B.S., 1970, Wake Forest University; Ph.D., 1977, Thomas Jefferson University.
- Eckberg, Dwain L. (1977) *Professor of Medicine* B.A., 1958, Wheaton College; M.D., 1963, Northwestern University.
- Edloe, Leonard L. (1975) *Clinical Instructor in Pharmacy* B.S., 1970, Howard University.
- Edmonds, Albert M. (1954) *Associate Clinical Professor of Pediatrics* B.A., 1940, M.D., 1943, Syracuse University.
- Edmondson, David G. (1978) *Clinical Instructor in Restorative Dentistry* B.S., 1964, University of Richmond; D.D.S., 1968, Medical College of Virginia of Virginia Commonwealth University.
- Edwards, Garry L. (1971) *Assistant Professor of Psychiatry (Child)* A.B., 1965, M.A., 1967, Marshall University; Ed.D., 1971, University of Virginia.
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- Hopkins University; M.D., 1952, University of Maryland.
- Egle, John L., Jr. (1966) *Associate Professor of Pharmacology* B.S., 1961, Shepherd College; M.S., 1963 Ph.D., 1964, West Virginia University.
- Egelhoff, William F. (1974) *Assistant Professor of Allied Health Education* B.A., 1940, Williams College, Massachusetts; M.B.A., 1943, Harvard Business School.
- Ehrlich, Frank E. (1973) *Assistant Professor of Surgery* M.D., 1963, University of Buffalo.
- Eisenberg, Stuart J. (1953) *Associate Professor of Radiology* B.A., 1937, Union University; M.D., 1941, Columbia University.
- Elford, Howard L. (1975) *Associate Professor of Biochemistry* B.S., 1958, University of Illinois; Ph.D., 1962, Cornell University.
- Elliot, Linda M. (1978) *Clinical Instructor in Dental Hygiene* B.S., 1974, University of Maryland; M.Ed., 1975, University of Virginia.
- Elliott, Billie W. (1968), *Clinical Instructor in Medicine*, B.A., 1949, King College; M.D., 1954, Medical College of Virginia.
- Ellis, Earl F., Jr. (1977) *Assistant Professor of Pharmacology* B.S., 1968, Oklahoma State University; Ph.D., 1974, Bowman Gray School of Medicine.
- Elmore, Willie T. (1973) *Clinical Instructor in General and Preventive Dentistry* D.D.S., 1959, Medical College of Virginia.
- Elzay, Richard P. (1962) *Professor and Chairman, Department of Oral Pathology* D.D.S., 1960, B.S., M.S.D., 1962, Indiana University.
- Emswiler, Carl F., Jr. (1977) *Clinical Instructor in Pharmacy* B.S., 1962, Medical College of Virginia.
- England, Marshall C., Jr. (1965) *Associate Professor and Acting Chairman, Department of Endodontics* B.S., 1954, Maryville College; D.D.S., 1958, M.S., 1967, Medical College of Virginia.
- Epstein, Ludwig I. (1967) *Associate Professor of Biophysics* B.S., 1940, M.S., 1941, California Institute of Technology; Ph.D., 1967, Ohio State University.
- Erfe, Jose A. (1976) *Assistant Clinical Professor* B.S., 1958, M.D., 1962, University of the Philippines.
- Escobar, Mario R. (1967) *Associate Professor of Clinical Pathology* A.B., 1954, University of Louisville; M.S., 1960, Georgetown University; Ph.D., 1963, Indiana University.
- Eshleman, John R. (1960) *Associate Professor of Restorative Dentistry* D.D.S. 1960, Medical College of Virginia.
- Etkin, Michael W. (1975) *Adjunct Assistant Professor of Pharmacology* B.S., 1959, New York University; M.S., 1968, Ph.D., 1970, Rutgers University.
- Ettigi, Prakash G. (1977) *Assistant Professor of Psychiatry* M.B., B.S., 1970, Karnatak University, India; D.P.M., 1976, McGill University, Canada.
- Eubank, Charles L. (1952) *Assistant Clinical Professor of Removable Prosthodontics* D.D.S., 1951, Medical College of Virginia.
- Evans, Eleanor F. (1970) *Assistant Professor of Clinical Pharmacology* B.S., 1961, M.D., 1965, Medical College of Virginia.
- Evans, Herbert J. (1974) *Assistant Professor of Biochemistry* B.S., 1963, Penn State University; Ph.D. 1969, Case Western Reserve.
- Ewart, George E. (1956) *Associate Professor of Medicine* B.S., 1938, Roanoke College; M.D., 1942, Medical College of Virginia.
- Exley, Elaine Ethelyn (1978) *Associate Professor of Nursing* Diploma, 1952, City Hospital; B.S., 1959, M.S., 1960, Ohio State University; Ed. D., 1972, Ball State University.
- Fabiato, Alexandre (1975) *Professor of Physiology* M.D., 1963, Faculte de Medecine de Paris; Ph.D., 1970, Faculte de Science de Paris.
- Fairly, John L., Jr. (1958) *Assistant Professor of Medicine* B.S., 1947, Davidson College; M.D., 1951, Medical College of Virginia.
- Fairman, R. Paul (1977) *Instructor in Medicine* B.S., 1968, Johns Hopkins University; M.D., 1972, University of Missouri School of Medicine.
- Falck, Renate B.E. (1978) *Assistant Professor of Psychiatry* M.D., 1968, University of Dusseldorf, Germany.
- Fallon, Harold Joseph (1974) *Professor of Medicine and Chairman, Department of Medicine* B.A., 1953, M.D., 1957, Yale University.
- Falls, William F., Jr. (1966) *Professor of Medicine* B.S., 1955, M.D., 1959, University of Maryland.
- Fantl, Juan A. (1975) *Assistant Professor of Obstetrics and Gynecology* M.D., 1969, University of Buenos Aires School of Medicine.
- Farrar, John T. (1963) *Professor of Medicine and Associate Dean, McGuire Veterans Administration Hospital* A.B., 1942, Princeton University; M.D., 1945, Washington University.
- Farrington, Frank H., (1977) *Associate Professor and Chairman, Department of Pedodontics* D.D.S., 1965, M.S., 1969, Marquette University.
- Fastabend, Carl P. (1978) *Instructor in Medicine (Cardiology)* B.S., 1970, Virginia Polytechnic Institute and State University; M.D., 1974, Medical College of Virginia of Virginia Commonwealth University.

Board, Administration, and Faculty

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- Faulconer, Robert J. (1965) *Clinical Professor of Pathology* B.S., 1943, College of William and Mary; M.D., 1947, Johns Hopkins University.
- Faunce, Howard F. (1975) *Assistant Clinical Professor of Radiology* D.O., 1971, The Philadelphia College of Osteopathic Medicine.
- Fehér, Joseph J. (1977) *Instructor in Physiology* B.S., 1971, M.S., 1973, Cornell University.
- Felthousen, Gregory C. (1978) *Clinical Instructor in Restorative Dentistry* B.S., 1972, Old Dominion University; D.D.S., 1976, Medical College of Virginia of Virginia Commonwealth University.
- Felton, Elizabeth B. (1978) *Instructor in Community Health Nursing* B.S., 1974, Alfred University.
- Feminella, John G. (1973) *Clinical Instructor in Surgery (Urology)* A.B., 1962, Colgate University; M.D., 1966, New York Medical College.
- Feore, John Coleman (1977) *Clinical Instructor in Obstetrics and Gynecology* M.D., 1970, University College Cork, National University of Ireland.
- Fernandez, Frances R. (1961) *Associate Professor of Nursing* B.S., 1951, Medical College of Virginia; M.P.H., 1960, University of North Carolina.
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- Feuer, Stanley J. (1977) *Instructor in Psychiatry* B.A., 1970, Fairleigh Dickinson University; M.S.S.W., 1975, Virginia Commonwealth University.
- Fidler, Robert Y. (1964) *Clinical Associate in Pediatrics* B.S., 1959, West Virginia University; M.D., 1961, Medical College of Virginia.
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- Fields, William R. (1970) *Associate Professor of Radiology* B.A., 1961, University of Kentucky; M.D., 1966, West Virginia University.
- Fierro, Robert (1977) *Clinical Instructor in Obstetrics and Gynecology* M.D., 1968, University of Ottawa, Canada.
- Filipowicz, Francis J. (1970) *Associate Clinical Professor of Oral Pathology* B.A., 1954, D.D.S., 1958, University of Buffalo; M.S., 1962, Medical College of Virginia.
- Finch, Alfred J., Jr. (1973) *Associate Professor of Child Psychiatry* B.S., 1966, University of Georgia; Ph.D., 1970, University of Alabama.
- Finnegan, Frederick J. (1972) *Associate Clinical Professor of Removable Prosthodontics* D.D.S., 1950, New York University.
- Fischer, Ronald A. (1976) *Clinical Instructor in Otolaryngology, Rhinology, and Laryngology* B.A., 1961, Concordia Senior College; M.D., 1968, State University of New York.
- Fisher, D. Gwendoline (1965) *Assistant Clinical Professor of Psychiatry* M.D., 1952, University of Western Ontario, Canada.
- Fisher, Lyman McA. (1960) *Professor of Clinical Pathology* B.A., 1951, University of Western Ontario; M.A., 1954, Ph.D., 1957, M.D., 1960, University of Saskatchewan, Canada.
- Fishman, Sherwin R. (1971) *Associate Professor of General and Preventive Dentistry* B.A., 1953, Wayne State University; M.P.H., 1964, D.D.S., 1956, University of Michigan.
- Fiske, Russell H. (1940) *Associate Professor of Pharmacy* B.S., 1939, University of Michigan.
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- Flora, Roger E. (1977) *Adjunct Associate Professor of Biostatistics* B.A., 1960, University of Virginia; M.S., 1964, Ph.D., 1966, Virginia Polytechnic Institute.
- Flowers, Ann M. (1963) *Associate Professor of Otolaryngology* B.S., 1943, Minnesota State College at Bemidji; M.S., 1949, University of Wisconsin; Ed.D., 1965, University of Virginia.
- Floyd, Harold L. (1966) *Associate Professor of Radiology* M.D., 1960, George Washington University.
- Fohl, Richard B. (1977) *Clinical Instructor in Dermatology* B.S., 1966, University of

Board, Administration, and Faculty

- Richmond; M.D., 1970, Medical College of Virginia of Virginia Commonwealth University.
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- Ford, George D. (1969) *Associate Professor of Physiology* B.S., 1961, West Virginia University; M.S., 1964, University of Iowa; Ph.D., 1967, West Virginia University.
- Ford, Lana J. (1978) *Assistant Professor of Occupational Therapy* B.S., 1967, M.Ed., 1974, University of Kansas.
- Formica, Joseph V. (1969) *Associate Professor of Microbiology and Assistant Dean, School of Basic Sciences* B.S., 1953, M.S., 1954, Syracuse University; Ph.D., 1967, Georgetown University.
- Forrest, David C. (1953) *Clinical Instructor in Obstetrics and Gynecology* B.S., 1943, Randolph-Macon College; M.D., 1950, Medical College of Virginia.
- Foster, Merritt W., Jr. (1971) *Clinical Professor of Psychiatry* A.B., 1940, College of William and Mary; M.D., 1944, Medical College of Virginia.
- Fowler, Alpha A., III (1978) *Instructor in Medicine* B.S. 1971, University of Georgia; M.D., 1975, Medical College of Georgia.
- Frable, Mary A. (1966) *Associate Professor and Acting Chairman, Department of Otolaryngology* B.A., 1955, Oberlin College; M.D., 1959, Northwestern University.
- Frable, William J. (1966) *Professor and Chairman of Surgical Pathology* B.S., 1956, M.D., 1959, Northwestern University.
- Francis, Gloria M. (1972) *Professor of Nursing* B.S., 1959, M.S., 1960, Ohio State University; M.A., 1970, Ph.D., 1972, University of Pennsylvania.
- Franko, Bernard V. (1975) *Adjunct Assistant Professor of Pharmacology* B.S., 1954, M.S., 1955, West Virginia University; Ph.D., 1958, Medical College of Virginia.
- Franson, Richard C. (1975) *Associate Professor of Biophysics* B.S., 1965, University of Massachusetts; M.S., 1970, Ph.D., 1972, Bowman Gray School of Medicine.
- Frantzis, Theodosios G. (1978) *Assistant Professor of Periodontics* D.D.S. 1966, Emory University; M.S.D., 1971, University of Minnesota and Mayo Graduate School of Medicine.
- Fratkin, Melvin (1971) *Associate Professor of Radiology and Medicine* B.A., 1960, Duke University; M.D., 1964, Medical College of Virginia.
- Frederick, L. Arnold (1965) *Clinical Instructor in Surgery (Urology)* B.S., 1956, University of Richmond; M.D., 1959, Medical College of Virginia.
- Frederick, Philip, Jr. (1960) *Clinical Instructor in Internal Medicine* B.S., 1950, University of Richmond; M.D., 1954, Medical College of Virginia.
- Freedlender, Arthur E. (1977) *Assistant Professor of Medicine* Ph.D., 1977, University of Wisconsin.
- Freedman, Willard S. (1977) *Clinical Instructor in Community Dentistry* D.D.S., 1957, Temple University.
- Freer, Richard J. (1975) *Associate Professor of Pharmacology* B.S., 1964, Marist College; Ph.D., 1969, Columbia University.
- Fretwell, Darwin L. (1977) *Assistant Professor of Community Dentistry* A.A., 1967, Daytona Beach Junior College; B.A., 1969, Florida State University; D.D.S., 1975, Medical College of Virginia of Virginia Commonwealth University.
- Freund, Jack (1958) *Clinical Professor of Medicine and Assistant Professor of Pharmacology* B.S., 1937, New York University; M.D., 1946, Medical College of Virginia.
- Fridley, Harrison L., Jr. (1977) *Clinical Instructor in Pharmacy* B.A., 1961, Virginia Military Institute; B.S., 1964, Medical College of Virginia.
- Friedel, Robert O. (1977) *Professor and Chairman, Department of Psychiatry* B.A., 1958, M.D., 1964, Duke University.
- Friedenberg, Milton D. (1969) *Associate Clinical Professor of Psychiatry* B.S., 1943, University of Richmond; M.D., 1947, Medical College of Virginia.
- Friedman, Marvin A. (1971) *Adjunct Associate Professor of Pharmacology* S.B., 1964, S.M., 1965, Ph.D., 1967, Massachusetts Institute of Technology.
- Funderburk, William H. (1962) *Adjunct Associate Professor of Pharmacology* B.S., 1939, University of Kentucky; M.S., 1950, Ph.D., 1952, University of Illinois.
- Funkhouser, James B. (1953) *Associate Clinical Professor of Psychiatry* B.S., 1935, M.D., 1937, Indiana University.
- Gaertner, Richard Leo (1975) *Clinical Instructor in Orthopedic Surgery* M.D., 1965, Temple University.
- Galston, Herbert H. (1950) *Assistant Clinical Professor of Radiology* B.A., 1939, University of Michigan; M.D., 1943, George Washington University.
- Gander, George W. (1963) *Professor of Pathology* B.S., 1953, Montana State College; M.S., 1955, Ph.D., 1959, Cornell University.
- Garbee, William H. (1978) *Instructor in Community Dentistry* B.S. 1971, Duke University; D.D.S., 1975, Medical College of Virginia of Virginia Commonwealth University.

Board, Administration, and Faculty

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- Gardner, David (1978) *Assistant Professor of Medicine* B.A., 1967, Brown University; M.D., 1971, New York University School of Medicine.
- Gardner, Edward D., Jr. (1974) *Clinical Instructor in Dental Team Program* B.A., 1970, William and Mary; D.D.S., 1974, Medical College of Virginia of Virginia Commonwealth University.
- Garnett, William R. (1976) *Assistant Professor of Pharmacy* B.S., 1969, Medical College of Virginia of Virginia Commonwealth University; Pharm.D., 1973, Philadelphia College of Pharmacy and Science.
- Garrettson, Lorne K. (1973) *Associate Professor of Pharmacy and Pediatrics* B.A., 1955, Pomona College; M.D., 1959, Johns Hopkins University.
- Gayle, Major D., Jr. (1952) *Assistant Clinical Professor of Removable Prosthodontics* B.S., 1942, Randolph-Macon College; D.D.S., 1950, Medical College of Virginia.
- Gayle, Sigsby W. (1970) *Clinical Instructor in Medicine* B.S., 1961, University of Richmond; M.D., 1965, Medical College of Virginia.
- Gayle, William E. Jr. (1974) *Assistant Clinical Professor of Surgery* B.S., 1961, Davidson College; M.D., 1965, Medical College of Virginia.
- Gazala, Joseph R. (1958) *Assistant Clinical Professor of Ophthalmology* M.D., 1947, Royal College of Medicine, Bagdad, Iraq.
- Geeraets, Ragnit (1972) *Associate Professor of Ophthalmology and Anatomy* M.S., 1968, Ph.D., 1972, Virginia Commonwealth University.
- Gerhold, Carl H. (1965) *Assistant Professor of Radiologic Technology and Chairman, Program of Radiologic Technology* Certificate of Graduation, 1964, U.S. Naval Hospital, Long Beach, California; RT (ARRT), B.A., 1977, Upper Iowa University.
- Gerstzen, Enrique (1961) *Associate Professor of Pathology* M.D., 1958, University of Buenos Aires.
- Ghatak, Nitya R. (1976) *Associate Professor of Pathology* M.B.B.S., 1957, University of Calcutta.
- Gianoulis, James T. (1958), *Clinical Associate in Surgery*, M.D., 1941, Medical College of Virginia.
- Gill, John A. (1954) *Assistant Clinical Professor of Otolaryngology*, B.A., 1943, University of Virginia; M.D., 1946, Medical College of Virginia.
- Gill, William C., Jr. (1975) *Assistant Clinical Professor of Family Practice* B.A., 1947, University of Richmond; M.D., 1953, Medical College of Virginia.
- Gillespie, James Earnest (1978) *Assistant Professor of Ophthalmology* B.A., 1966, Vanderbilt University; M.D., 1970, University of Rochester.
- Gilliam, Darrell K. (1975) *Associate Clinical Professor of Family Practice* B.A., 1950, University of Richmond; M.D., 1959, Medical College of Virginia.
- Gilliam, Quincy B. (1977) *Clinical Instructor in Community Dentistry* B.S., 1968, Lynchburg College; D.D.S., 1972, Medical College of Virginia of Virginia Commonwealth University.
- Gills, Julian C. (1970) *Assistant Clinical Professor of Orthodontics* B.S., 1964, Hampden-Sydney College; D.D.S., 1968, Medical College of Virginia.
- Glascok, Lyle M. (1976) *Clinical Instructor in Pharmacy* B.S., 1962, University of Montana.
- Glasser, Harold (1978) *Clinical Instructor in Community Dentistry* B.A., 1947, D.D.S., 1952, Indiana University.
- Glauser, Frederick (1977) *Associate Professor of Medicine and Chairman, Division of Pulmonary Medicine* B.S., 1959, Ursinus College; M.D., 1963, Hahnemann Medical College.
- Glazier, Richard L. (1975) *Clinical Instructor in Medicine* B.S., 1966, Yale University; M.D., 1970, University of Virginia.
- Gleason, Margaret D. (1977) *Assistant Professor of Psychiatry* B.A., 1934, M.D., 1938, University of Toronto.
- Glenn, Robert O., Jr. (1977) *Clinical Instructor in Pharmacy* B.S., 1964, Medical College of Virginia.
- Glennon, Richard A. (1975) *Assistant Professor of Pharmaceutical Chemistry* B.S., 1967, M.S., 1969, Northeastern University; Ph.D., 1973, State University of New York.
- Goldberg, Stephen J. (1973) *Associate Professor of Anatomy* B.A., 1965, Antioch College; Ph.D., 1970, Clark University.
- Goldman, I. David (1974) *Professor of Medicine and Vice-Chairman, Department of Medicine* B.A., 1958, New York University; M.D., 1962, The University of Chicago.
- Goldman, Stanley A. (1968) *Assistant Clinical Professor of Medicine* B.A., 1957, M.D., 1961, University of Rochester.
- Golka, Michael P. (1978) *Assistant Professor of Endodontics* B.A., 1970, Rutgers University; D.D.S., 1974, Temple University.
- Gomez, Humberto (1973) *Associate Clinical Professor of Psychiatry* B.S., 1947, Liceo Antioqueno; M.D., 1954, University of A. Medellin; M.S., 1959, Tulane University.

Board, Administration, and Faculty

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- Goodwin, Ambler R. (1965) *Associate Clinical Professor of Pathology* B.S., 1954, University of Richmond; M.D., 1958, Medical College of Virginia.
- Goplerud, Dean R. (1972) *Associate Professor of Obstetrics and Gynecology* B.A., 1951, St. Olaf College; M.D., 1955, State University of Iowa.
- Gorman, Florence Murphy (1978) *Instructor in Occupational Therapy* B.A., 1945, Connecticut College; Certificate, 1946, Tufts University.
- Graham, Samuel A., Jr. (1966) *Lecturer in Preventive Medicine* B.S., 1943, University of South Carolina; M.D., 1947, Medical College of South Carolina; M.P.H., 1954, University of North Carolina.
- Grant, Patsy L. (1976) *Associate Professor of Visual Education* B.S.N., 1956, Medical College of Virginia; M.N., 1961, Emory University; M.M.S., 1969, Tulane University.
- Gray, Carolyn (1978) *Assistant Professor of Community Dentistry* B.S., 1973, M.S., 1975, Columbia University.
- Greathouse, Joanne S. (1976) *Assistant Professor of Radiologic Technology* B.A., 1971, Carthage College.
- Green, Michael J. (1977) *Clinical Instructor in Restorative Dentistry* B.S., 1969, University of Virginia; D.D.S., 1973, Medical College of Virginia of Virginia Commonwealth University.
- Green, Richard K. (1978) *Assistant Clinical Professor of Oral Surgery* B.S., 1953, Roanoke College; D.D.S., 1960, Medical College of Virginia of Virginia Commonwealth University.
- Greenberg, David J. (1958) *Associate Clinical Professor of Medicine* B.S., 1945, University of Richmond; M.D., 1947, Medical College of Virginia.
- Greenberg, Richard (1978) *Assistant Professor of Surgery* B.A., 1965, Brooklyn College, New York; M.D., 1972, Bologna University Medical College; Ph.D., 1978, Medical College of Virginia of Virginia Commonwealth University.
- Greenfield, Lazar J. (1974) *Professor and Chairman, Department of Surgery* M.D., 1958, Baylor University.
- Greishaw, Martha Susan (1978) *Instructor in Medical-Surgical Nursing* B.S., 1973, Villa Maria College; M.S., 1977, Medical College of Virginia of Virginia Commonwealth University.
- Griffin, Harvey L. (1965) *Associate Clinical Professor of Pathology* A.B., 1952, University of North Carolina; M.D., 1956, Duke University.
- Griffin, John L., Jr. (1971) *Associate Professor of Psychiatry (Child)* B.S., 1962, University of Southern Mississippi; Ph.D., 1970, University of Alabama.
- Griffith, Ernest R. (1975) *Professor and Chairman of Rehabilitation Medicine* B.S., 1952, Dickinson College; M.D., 1956, Jefferson Medical College.
- Griffith, Richard L., III (1977) *Assistant Professor of Surgery* B.S., 1967, University of Virginia; M.S.E.E., 1972, D.Eng., 1973, Rensselaer Polytechnic Institute; M.D., 1977, Medical College of Virginia of Virginia Commonwealth University.
- Griffiths, Sarah A. (1968) *Assistant Professor of Medical-Surgical Nursing* B.S., 1963, Medical College of Virginia; M.S., 1973, University of Texas.
- Grinnan, Richardson (1975) *Assistant Clinical Professor of Medicine* B.S., 1963, University of Virginia; M.D., 1969, Medical College of Virginia of Virginia Commonwealth University.
- Grogan, W. McLean, Jr. (1975) *Assistant Professor of Biochemistry* B.S., 1967, Belmont College; Ph.D., 1972, Purdue University.
- Gruemer, Hanns-Dieter F. (1977) *Professor of Pathology* M.D., University of Frankfurt, Germany.
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- Gudas, Stephen A. (1978) *Assistant Professor of Physical Therapy* B.S., 1971, University of Pennsylvania; M.S., 1976, Medical College of Virginia of Virginia Commonwealth University.
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- Guerry, DuPont, III (1944) *Clinical Professor of Ophthalmology* B.S., 1934, Furman University; M.D., 1938, University of Virginia; D. Med. Sc., 1944, Columbia University.
- Guerry, Richard K. (1977) *Assistant Clinical Professor of Ophthalmology* B.A., 1967, Yale University; M.D., 1970, University of Virginia.
- Guilford, Harold J. (1976) *Assistant Professor of Removable Prosthodontics* B.S. 1950, University of Houston; D.D.S., 1956, University of Texas.
- Gump, Michael L. (1978) *Instructor in Health Administration* A.B., 1975, Lafayette College; M.H.A., 1977, Virginia Commonwealth University.
- Gupta, Vijay K. (1972) *Instructor in Computer Science* B.Sc., 1951, M.Sc., 1954, Agra University (Mathematics); M.Sc., 1971, University of St. Andrews, Scotland (Computing Science).
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Board, Administration, and Faculty

- Guynn, James B., Jr. (1975) *Clinical Instructor in Pharmacy* B.S., 1963, M.S., 1973, Medical College of Virginia of Virginia Commonwealth University.
- Guzelian, Philip S., Jr. (1974) *Associate Professor of Medicine* B.A., 1963, M.D., 1967, University of Wisconsin.
- Gwaltney, Betty H. (1966) *Associate Professor of Nursing and Director, Continuing Education* B.S., 1939, College of William and Mary; B.S.N., 1944, University of Virginia; M.A., 1949, New York University.
- Gwathmey, Owen (1962) *Clinical Professor of Surgery* B.A., 1942, University of Richmond; M.D., 1945, Medical College of Virginia.
- Haar, Jack L. (1971) *Associate Professor of Anatomy* B.S., 1964, Capital University; M.S., 1966, University of Arizona; Ph.D., 1970, Ohio State University.
- Haber, Oscar P. (1971) *Assistant Clinical Professor of Endodontics* B.A., 1943, D.D.S., 1947, University of Buffalo.
- Hackler, Robert H. (1971) *Associate Professor of Surgery (Urology)* B.A., 1956, M.D., 1960, University of North Carolina.
- Haden, Halcott, T. (1956) *Associate Professor of Medicine and Radiology* B.S., 1946, University of South Carolina; M.D., 1950, Vanderbilt University.
- Hadfield, M. Gary (1970) *Associate Professor of Pathology, Neuropathology* B.A., 1960, Brigham Young University; M.D., 1964, University of Utah.
- Hager, Harry G., Jr. (1969) *Assistant Clinical Professor of Radiology* B.S., 1958, M.D., 1960, Medical College of Virginia.
- Hagnegahdar, Siamak (1978) *Instructor in Medicine* M.D., 1966, University of Tehran.
- Hahn, Gary D. (1978) *Instructor in Nurse Anesthesia* A.B., 1970, Niagara County Community College; B.S., 1974, State University of New York at Buffalo; Certificate-Nurse Anesthesia, 1978, Medical College of Virginia of Virginia Commonwealth University.
- Hai, Samander M. (1978) *Assistant Professor of Health Administration* B.S., 1969, M.S., 1971, American University of Beirut; Ph.D., 1974, Arizona State University.
- Haines, David (1978) *Instructor in Surgery (Orthopedic)* B.S., 1964, Cornell University; M.D., 1969, Tulane University.
- Hakala, Edwin W. (1960) *Assistant Clinical Professor of Orthopedic Surgery* B.S., 1935, M.D., 1937, University of Minnesota.
- Hake, Terry H. (1975) *Assistant Clinical Professor in Endodontics* B.A. 1962, Gettysburg College; D.D.S., 1962, Temple University.
- Hale, Louellyn G. (1978) *Clinical Instructor in Nurse Anesthesia* B.S., 1968, Northwestern State University.
- Hall, David L. (1978) *Instructor in Oral Surgery* D.D.S., 1977, Ohio State University.
- Hall, Snowden C., III (1973) *Clinical Instructor in Medicine* M.D., 1965, Duke University.
- Halliday, Cynthia B. (1978) *Assistant Professor of Dental Hygiene* B.S., 1972, M.S., 1978, Old Dominion University.
- Halloran, L. Gregg (1972) *Assistant Professor of Surgery* B.S., 1960, Washington and Lee University; M.D., 1964, Medical College of Virginia.
- Halloran, Randolph M. (1978) *Assistant Clinical Professor of Medicine* B.S., 1958, West Virginia University; M.D., 1965, Medical College of Virginia.
- Hamer, Frederick C., Jr. (1961) *Associate Clinical Professor of Orthodontics* B.A., 1951, University of Virginia; D.D.S., 1957, Medical College of Virginia.
- Hamilton, Stuart H., Jr. (1973) *Clinical Instructor in Obstetrics and Gynecology* B.S., 1963, M.D., 1967, Medical College of Virginia.
- Hampton, Carol L. (1971) *Associate Professor of Audio-visual Education and Educational Planning and Development* B.A., 1965, University of Arkansas; M.M.S., 1969, Tulane University.
- Hamric, Ann B. (1976) *Assistant Professor of Nursing* B.S.N., 1970, Vanderbilt University; M.S., 1973, University of California at San Francisco.
- Hancock, Daniel W. (1975) *Clinical Instructor in Pharmacy* B.S., 1970, Medical College of Virginia of Virginia Commonwealth University.
- Hancock, Richard W. (1977) *Clinical Instructor in Pharmacy* B.S., 1965, Medical College of Virginia.
- Hancock, Thomas F., Jr. (1975) *Lecturer in Legal Medicine* B.A., 1967, Virginia Military Institute; J.D., University of Richmond.
- Handley, Ken E. (1977) *Clinical Instructor in Community Dentistry* D.D.S., 1975, Medical College of Virginia of Virginia Commonwealth University.
- Hanshaw, Judith Kytle (1978) *Instructor in Occupational Therapy* B.S., 1964, Medical College of Virginia.
- Hanzel, Jeffrey (1977) *Clinical Instructor in Pediatrics* A.B., 1965, Brown University; M.D., 1969, Georgetown Medical College.
- Harbison, John W. (1970) *Professor of Neurology and Associate Professor of Ophthalmology* B.A., 1959, M.D., 1962, University of Iowa.
- Hard, Richard C., Jr. (1966) *Associate Professor of Pathology* B.S., 1954, Northwestern University; M.D., 1958, St. Louis University.
- Hardie, Edith L. (1969) *Assistant Professor of Physiology* B.S., 1954, Georgetown University; Ph.D., 1969, Medical College of Virginia of Virginia Commonwealth University.

Board, Administration, and Faculty

- Hardigan, James E. (1975) *Assistant Professor of Community Dentistry and Director of Faculty Practice* B.A., 1968, M.B.A., 1970, Northeastern University; Ph.D., 1975, Cornell University.
- Hardy, Maureen Ann (1978) *Instructor in Physical Therapy and Surgery* B.S., 1972, University of Pennsylvania.
- Harkrader, James (1977) *Clinical Instructor in Ophthalmology* B.A., 1964, Virginia Military Institute; M.D., 1969, Medical College of Virginia of Virginia Commonwealth University.
- Harrell, Warren E. (1973) *Assistant Clinical Professor of Pharmacy* B.S., 1960, Medical College of Virginia.
- Harrelson, Austin B. (1969) *Assistant Clinical Professor of Neurology* B.S., 1957, Hampden-Sydney College; M.D., 1962, Medical College of Virginia.
- Harrington, Walter G. (1975) *Assistant Professor of Restorative Dentistry* A.B., 1965, D.D.S., 1969, Case Western Reserve University.
- Harris, Andrew E., Jr. (1972) *Associate Clinical Professor of Family Practice* B.S., 1947, Hampden-Sydney College; M.D., 1951, Medical College of Virginia.
- Harris, Anthony E. (1977) *Assistant Professor of Otolaryngology* B.A., 1965, Denison University; M.D., 1970, Bowman Gray School of Medicine.
- Harris, Campbell, Jr. (1952) *Associate Clinical Professor of Anesthesiology* M.D., 1949, University of Virginia.
- Harris, James S. (1972) *Associate Clinical Professor of Family Practice* B.A., 1953, Hampden-Sydney College; M.D., 1960, University of Virginia.
- Harris, Jean L. (1973) *Clinical Professor of Family Practice* B.S., 1951, Virginia Union University; M.D., 1955, Medical College of Virginia.
- Harris, Margaret B. (1976) *Instructor in Nursing* B.S., 1972, Murray State University; M.S., 1976, Emory University.
- Harris, L. Martin (1970) *Associate Professor of Psychiatry* B.S., 1956, Hampden-Sydney College; M.D., 1960, Medical College of Virginia; M.Ed., 1968, University of Illinois.
- Harris, Louis S. (1972) *Professor and Chairman, Department of Pharmacology* B.A., 1954, M.A., 1956, Ph.D., 1958, Harvard University.
- Harris, Thomas M. (1964) *Professor of Anatomy* B.A., 1949, Emory University; Ph.D., 1962, University of North Carolina.
- Harris, William H., Jr. (1975) *Assistant Clinical Professor of Medicine* B.A., 1934, University of Virginia; M.D., 1938, Johns Hopkins University.
- Harris, William O., Jr. (1969) *Assistant Clinical Professor of Neurology* A.B., 1955, Virginia Military Institute; M.D., 1959, Medical College of Virginia.
- Harrison, Jacquelin M. (1969) *Associate Clinical Professor of Surgery* B.A., 1934, M.D., 1946, University of Virginia.
- Hart, Herbert C. (1972) *Assistant Professor of Psychiatry* B.A., 1954, M.A., 1956, Ph.D., 1959, University of Florida.
- Hart, James Edward, (1979) *Clinical Professor of Pathology* B.A., 1955; M.D., 1959, University of Washington.
- Harton, William R., Jr. (1954) *Lecturer in Preventive Medicine* B.S., 1941, M.S., 1957, University of Richmond.
- Harvie, Lucy M. (1951) *Instructor in Pharmaceutical Chemistry* B.S., 1946, University of Richmond.
- Hassan, Zubair U. (1972) *Associate Professor of Medicine* M.B., B.S., 1960, King Edward Medical College, Lahore, Pakistan.
- Hastillo, Andrea (1974) *Assistant Professor of Medicine* B.S., 1965, M.D., 1969, University of Pittsburgh.
- Hasty, John William (1973) *Clinical Instructor in Pharmacy* B.S., 1956, Medical College of Virginia.
- Haun, Eloise C. (1974) *Assistant Clinical Professor of Psychiatry* B.A., 1958, Bryn Mawr; M.D., 1962, Medical College of Virginia.
- Hauser, Walter Arthur (1964) *Associate Professor of Psychiatry* M.D., 1941, University of Graf, Austria.
- Hawkins, Richard F., Jr. (1975) *Assistant Professor of Radiology* B.S., 1966, Hampden-Sydney College; M.D., 1970, Medical College of Virginia of Virginia Commonwealth University.
- Hayden, G. Douglas (1956) *Clinical Professor of Otolaryngology* M.D., 1945, Medical College of Virginia.
- Hayes, Peggy E. (1978) *Assistant Professor of Pharmacy and Pharmaceuticals* B.S., 1966, David Lipscomb College; B.S., 1969, Pharm. D., 1974, University of Tennessee.
- Haynes, Jr., Boyd W. (1953) *Professor of Surgery, Chairman, Division of Trauma* M.D., 1941, University of Louisville.
- Hays, Freeman C. (1969) *Lecturer in Preventive Medicine* B.S., 1941, University of Mississippi; M.D., 1945, George Washington University; M.P.H., 1962, Johns Hopkins University.
- Hazra, Tapan A. (1976) *Professor and Chairman, Division of Radiation Therapy* B.S., 1958, M.B., 1959, University of Bombay.
- Hecht, Alan (1959) *Clinical Associate in Medicine* B.A., 1949, Sarah Lawrence College; M.D., 1953, Washington University.
- Hecker, Henry C. (1977) *Clinical Instructor in Otolaryngology* B.A., 1965, M.A., 1968, University of Utah.

Board, Administration, and Faculty

- Heltzel, Robert E. (1975) *Assistant Clinical Professor of Pedodontics* D.D.S., 1967, Medical College of Virginia.
- Henceroth, William (1978) *Instructor in Surgery* B.A., 1970, Denison University; M.D., 1973, Ohio State University.
- Hench, Miles E. (1952) *Professor of Clinical Pathology and Associate Dean, School of Medicine* B.S., 1941, Lawrence University; M.S., 1949, Ph.D., 1952, University of Michigan.
- Hendrix, Christy J. (1978) *Instructor in Dental Hygiene* B.S., 1977, Medical College of Virginia of Virginia Commonwealth University.
- Henley, Robert W., Jr. (1977) *Assistant Clinical Professor of Medicine* B.A., 1964, Washington and Lee University; M.D., 1968, University of Virginia.
- Henry, Daniel A. (1977) *Assistant Professor of Radiology* B.S., 1966, St. Louis University; M.D., 1971, St. Louis University School of Medicine.
- Henry, Joanne K. (1978) *Assistant Professor of Maternal-Child Nursing* B.S.N., 1968, University of Virginia; M.A., 1971, New York University.
- Herbert, Daniel A. (1973) *Clinical Instructor In Pharmacy* B.S., 1966, Medical College of Virginia.
- Herman, Bernard D. (1977) *Assistant Clinical Professor of Pediatrics* B.A., 1953, University of North Carolina; M.D., 1957, Bowman Gray School of Medicine; M.P.H., 1974, University of North Carolina.
- Herndon, Empsy Marshall (1977) *Clinical Instructor in Pharmacy* B.S., 1972, Medical College of Virginia of Virginia Commonwealth University.
- Herring, Alvah, L., Jr. (1958) *Clinical Associate in Surgery* B.S., 1938, M.D., 1941, University of Virginia.
- Hershberg, Robert A., (1979) *Associate Clinical Professor of Pathology* B.A., 1961, M.D., 1965, Marquette University.
- Hess, Michael L. (1971) *Associate Professor of Physiology* B.S., 1964, St. Francis College; M.D., 1968, University of Pittsburgh.
- Hester, Harry R. (1969) *Assistant Professor of Adult Education* B.A., 1951, Emory and Henry College.
- Heyner, Gregory J. (1970) *Clinical Instructor in Ophthalmology* M.D., 1963, M.S., 1969, University of Michigan.
- Hicks, Paul P., Jr. (1974) *Clinical Instructor in Community Dentistry* B.S., 1967, Emory and Henry College; D.D.S., 1972, Medical College of Virginia of Virginia Commonwealth University.
- Hietala, Sven Ola (1975) *Assistant Professor of Radiology* M.D., 1966, University of Umea (Sweden).
- Higgins, Edwin S. (1956) *Professor and Acting Chairman, Department of Biochemistry* B.A., 1952, Alfred University; Ph.D., 1956, State University of New York at Syracuse.
- Higgins, William H., Jr. (1958) *Assistant Clinical Professor of Medicine* B.S., 1937, Davidson College; M.D., 1942, Johns Hopkins University.
- Hill, Bernard R. (1978) *Assistant Professor of Endodontics* B.S., 1968, Virginia Military Institute; D.D.S., 1972, Medical College of Virginia of Virginia Commonwealth University.
- Hill, J. Edward (1958) *Associate Clinical Professor of Surgery (Urology)* B.S., 1944, Virginia Polytechnic Institute; M.D., 1947, Medical College of Virginia.
- Hill, Jane Ratcliff (1977) *Assistant Professor and Director of Physical Therapy, MCV Hospitals* B.S., 1968, M.S., 1974, Medical College of Virginia of Virginia Commonwealth University; Ph.D., 1976, Union Graduate School for Experimenting Colleges and Universities.
- Hill, William R. (1954) *Clinical Professor of Surgery* B.S., 1930, Davidson College; M.D., 1934, M.S., 1938, University of Virginia.
- Hilliard, Norman L. (1963) *Assistant Professor of Pharmacy and Assistant Director for Continuing Education, Office of Continuing Education* B.S., 1953, Medical College of Virginia; M.Ed., 1970, Virginia Commonwealth University.
- Hirsch, Jerry I. (1970) *Associate Professor of Pharmacy and Radiology* B.Sc., 1967, Brooklyn College of Pharmacy; M.Sc., 1969, Pharm. D., 1970, Philadelphia College of Pharmacy and Science.
- Hirt, Susanne B. (1945) *Professor and Chairman, Department of Physical Therapy* B.S., 1948, University of Wisconsin; M.Ed., 1956, University of Virginia.
- Hitchcock, Elizabeth S. (1978) *Instructor in Community Dentistry* A.A., 1965, Antelope Valley College; B.S., 1967, California State University; M.S., 1969, Case Western Reserve.
- Hoard, Martin (1978) *Clinical Instructor in Oral Surgery* D.D.S., 1973, Medical College of Virginia of Virginia Commonwealth University.
- Hoffarth, Joseph M. (1979) *Clinical Instructor in Oral Pathology* B.A., 1966, University of Virginia; D.D.S., 1971, Medical College of Virginia of Virginia Commonwealth University.
- Hoffman, Johanna A. (1978) *Assistant Professor of Psychiatry* A.B., 1956, Notre Dame College; A.D., 1960, New Jersey College of Medicine.
- Hoffman, Robert A. (1954) *Assistant Clinical Professor of Pediatrics* B.S., 1941, University of Virginia; M.D., 1943, Medical College of Virginia.

Board, Administration, and Faculty

- Hoke, Harry F., Jr. (1968) *Assistant Clinical Professor of Pathology* B.A., 1954, Hampden-Sydney College; M.D., 1958, Medical College of Virginia.
- Holcomb, John B. (1978) *Assistant Professor of Endodontics* B.A., 1953, Amherst College; D.D.S., 1961, Washington University.
- Holland, William E. (1977) *Associate Clinical Professor of Medicine* B.A., 1958, Virginia Military Institute; M.D., 1962, Medical College of Virginia.
- Holmes, Walter M. (1977) *Assistant Professor of Microbiology* B.S., 1964, M.S., 1967, Memphis State University; Ph.D., 1974, University of Tennessee.
- Holzbach, George B., Jr. (1973) *Clinical Instructor in Pharmacy* B.S., 1963, Medical College of Virginia.
- Holzwander, Jay (1976) *Assistant Clinical Professor of Dermatology* B.A., 1968, University of Virginia; M.D., 1972, Medical College of Virginia of Virginia Commonwealth University.
- Hood, Thomas R. (1961) *Assistant Professor of Medicine* B.S., 1942, M.D., 1945, Duke University.
- Hoover, M. Josiah, Jr. (1965) *Clinical Professor of Orthopedic Surgery* A.B., 1931, University of Richmond; Th.M., Southern Baptist Seminary; M.D., 1940, Medical College of Virginia.
- Hopkins, Bette L. (1974) *Assistant Professor of Occupational Therapy* B.S., 1949, M.A., 1951, University of New Hampshire.
- Hopp, David I. (1972) *Associate Professor of Educational Planning and Development* B.A., 1958; M.A., 1960, Ph.D., 1965; University of California at Los Angeles.
- Hornbuckle, Phyllis A. (1975) *Assistant Professor of Psychology and Medicine* B.A., 1959, Pfeiffer College; M.A., 1966, College of William and Mary; Ph.D., 1969, Emory University.
- Horsley, J. Shelton, III (1976) *Professor of Surgery* B.A., 1950, M.D., 1953, University of Virginia.
- Hossaini, Ali A. (1963) *Professor of Pathology and Director, Blood Bank* B.S., 1953, American University of Beirut; M.S., 1956, Texas Christian University; Ph.D., 1960, Ohio State University.
- Howe, Edward G. (1973) *Assistant Clinical Professor of Periodontics* B.A., 1962, Virginia Military Institute; D.D.S., 1968, Medical College of Virginia.
- Howell, Hugh R. (1963) *Assistant Professor of Neurology* B.S., 1953, Roanoke College; M.D., 1957, University of Virginia.
- Howell, Talmadge R. (1971) *Associate Clinical Professor of Radiology* B.S., 1954, Wake Forest College; M.D., 1958, Duke University.
- Howells, Robert (1967) *Assistant Professor of Radiology* B.Sc., 1962, University of Wales.
- Howerton, James R. (1971) *Clinical Instructor in Psychiatry* M.D., 1955, University of Tennessee.
- Howren, Harry Hubert, Jr. (1962) *Assistant Clinical Professor of Obstetrics and Gynecology* M.D., 1952, Medical College of Virginia.
- Hranowsky, Nicholas (1970) *Clinical Instructor in Anesthesiology* B.S., 1942, Dnepropetrovsk Medical Institute; M.D., 1954, Maximilian Ludwig University.
- Hsu, Hsiu-Sheng (1964) *Associate Professor of Microbiology* B.Sc., 1955, McGill University; M.S., 1956, Ph.D., 1959, University of Pennsylvania.
- Huband, Albert L., Jr. (1970) *Assistant Clinical Professor of Restorative Dentistry* B.S., 1951, University of Richmond; D.D.S., 1956, Medical College of Virginia.
- Hubbard, Maury A., Jr. (1962) *Assistant Clinical Professor of Restorative Dentistry* B.S., 1958, Hampden-Sydney College; D.D.S., 1962, Medical College of Virginia.
- Hudgens, Robert O. (1959) *Associate Clinical Professor of Pediatrics* B.A., 1949, Emory University; M.D., 1953, Medical College of Virginia.
- Hudgins, Earl Maxwell (1975) *Assistant Clinical Professor of Dermatology* B.S., 1964, Roanoke College; M.D., 1968, University of Virginia.
- Hudson, Joyce A. (1978) *Instructor in Psychiatry (Psychology)* B.S., 1974, M.S., 1976, Ph.D., 1978, Virginia Commonwealth University.
- Hudson, Thomas R. (1967) *Associate Professor of Restorative Dentistry* B.S., 1962, University of Virginia; D.D.S., 1966, Medical College of Virginia.
- Hughes, David G. (1978) *Assistant Clinical Professor of Medicine* B.S., 1970, University of Georgia; M.D., 1973, Medical College of Georgia.
- Hughes, Felix A. (1975) *Assistant Clinical Professor of Radiology* B.A., 1962, Johns Hopkins University; M.D., 1966, Vanderbilt University.
- Hulbert, Mary S. (1965) *Assistant Clinical Professor of Psychiatry* B.A., 1942, Wooster College; M.A., 1944, Chicago Theological Seminary.
- Hulcher, Julius C. (1958) *Assistant Clinical Professor of Otolaryngology* B.S., 1937, Virginia Polytechnic Institute; M.D., 1941, Medical College of Virginia.
- Hunt, Patricia (1976) *Assistant Clinical Professor of Pediatrics* B.A., 1948, Goucher College; M.D., 1952, University of Nebraska.
- Hurt, W. Glenn (1968) *Professor of Obstetrics and Gynecology* B.S., 1960, Hampden-Sydney College; M.D., 1964, Medical College of Virginia.

Board, Administration, and Faculty

- Hurwitz, Gloria H. (1974) *Assistant Professor of Visual Education and of Educational Planning and Development, Coordinator of the Section of Learning Resource Facilities* B.A., 1969, Mary Washington College; M.S.L.S., 1970, University of North Carolina; M.B.A., 1976, Virginia Commonwealth University.
- Hutcher, Neil Edward (1973) *Assistant Clinical Professor of Surgery* B.S., 1962, University of Richmond; M.D., 1965, Medical College of Virginia.
- Hutcheson, Charles E., Jr. (1974) *Clinical Instructor in Community Dentistry* B.S., 1968; D.D.S., 1972, Medical College of Virginia of Virginia Commonwealth University.
- Hutchinson, Harold E. (1973) *Assistant Professor of Library Science* B.A., 1957, Pennsylvania State University; M.L.S., 1969, Syracuse University.
- Hutton, Charles F. (1968) *Professor of Radiology* M.R.S.C., L.R.C.P., 1944, D.M.R.D., 1951, Leeds General Infirmary, London.
- Hydorn, Marguerite E. (1973) *Associate Professor of Nursing* B.S., 1951, Wayne State University; M.Ed., 1954, University of Maryland.
- Hylemon, Philip B. (1972) *Associate Professor of Microbiology* B.S., 1967, Atlantic Christian College; Ph.D., 1972, Virginia Polytechnic Institute and State University.
- Irby, E. Claiborne (1958) *Clinical Associate in Medicine* A.B., 1949, University of North Carolina; M.D., 1953, Medical College of Virginia.
- Irby, W. Robert (1954) *Professor of Medicine* A.B., 1943, Hampden-Sydney College; M.D., 1948, Medical College of Virginia.
- Isaac, Bernard Anthony (1976) *Clinical Instructor in Otolaryngology, Rhinology, and Laryngology* B.S., 1957, M.D., 1961, American University of Beirut.
- Isaacs, Edward Richard (1974) *Assistant Clinical Professor of Neurology* B.S., 1964, Brooklyn College; M.D., 1968, Medical College of Virginia.
- Isabell, Jerry W. (1976) *Assistant Clinical Professor of Oral Surgery* B.S., 1965, D.D.S., 1972, University of Illinois.
- Isrow, Larry Alan (1975) *Assistant Professor of Neurology* B.S., 1967, Old Dominion College; M.D., 1971, Medical College of Virginia of Virginia Commonwealth University.
- Izard, Jessie V. (1968) *Professor and Chairman, Department of Medical Technology* B.S., 1942, Mississippi State College for Women; M.H., 1952, Charity Hospital; B.B., 1954, Southern Baptist Hospital; M.Ed., 1972, Virginia Commonwealth University.
- Jacey, Robert W. (1974) *Clinical Instructor in Ophthalmology* M.D., 1966, University of Illinois.
- Jackson, Caroline G. (1955) *Assistant Professor of Anatomy* B.S., 1946, University of Richmond; Ph.D., 1973, Medical College of Virginia of Virginia Commonwealth University.
- Jackson, Hunter S. (1958) *Assistant Clinical Professor of Surgery* B.S., 1939, University of Richmond; M.D., 1942, Medical College of Virginia; M.S., 1948, University of Minnesota.
- Jackson, Jackie P. (1979) *Assistant Professor of Visual Education and Hospital Based Learning Resource Center Manager* B.S., 1972, Medical College of Virginia of Virginia Commonwealth University; M.Ed., 1978, University of Virginia.
- Jacobson, Eric C. (1977) *Assistant Professor of Medicine* B.Sc., 1963, M.D., 1970, Ph.D., 1973, University of Wisconsin.
- Jacoby, Keith E. (1978) *Associate Professor of Educational Planning and Development Program, Family Practice, and Pharmacy* B.A., 1959, M.A., 1969, California State University; Ph.D., 1973, University of California.
- Jaffe, Michael (1972) *Assistant Clinical Professor of Pediatrics* B.S., 1963, Dalhousie University; M.D., 1968, Dalhousie Medical School.
- Jain, Usha (1975) *Clinical Instructor in Pathology* R.M.V., 1960, College, Jaipur, India; S.M.S., 1965, Medical College, Jaipur, India.
- James, Charles M. (1970) *Clinical Instructor in Orthopedic Surgery* B.S., 1959, Davidson College; M.D., 1963, Duke University.
- James, G. Watson, III (1948) *Professor of Medicine and Chairman, Division of Hematology* A.B., 1936, Washington and Lee University; M.D., 1943, Medical College of Virginia.
- Jamison, James C. (1971) *Clinical Instructor in Pediatrics* B.S., 1962, Davidson College; M.D., 1966, McGill University.
- Janus, Charles E. (1978) *Instructor in Restorative Dentistry* B.S., 1974, Belmont Abbey College; D.D.S., 1978, Medical College of Virginia of Virginia Commonwealth University.
- Jeffrey, Karen (1978) *Clinical Instructor in Community Dentistry* D.D.S., 1977, Medical College of Virginia of Virginia Commonwealth University.
- Jenkins, Jerry Lewis (1970) *Clinical Instructor in Restorative Dentistry* B.A., 1964, University of Richmond; D.D.S., 1968, Medical College of Virginia.
- Jessee, Robert W. (1968) *Professor of Preventive Medicine and Director of Medical Services Ambulatory Care, MCV Hospitals* M.D., 1946, University of Tennessee; M.P.H., 1952, Johns Hopkins University.
- Jeter, Samuel B., Jr. (1973) *Clinical Instructor in Pharmacy* B.S., 1949, Medical College of Virginia.

Board, Administration, and Faculty

- John, David T. (1972) *Associate Professor of Microbiology* A.B., 1963, Asbury College; M.S.P.H., 1966, Ph.D., 1970, University of North Carolina.
- Johns, Thomas N. (1958) *Clinical Professor of Surgery* A.B., 1943, Hampden-Sydney College; M.D., 1946, Johns Hopkins University.
- Johns, William A. (1958) *Associate Clinical Professor of Surgery* A.B., 1930, M.D., 1934, University of Virginia.
- Johnson, Bruce (1978) *Instructor in Obstetrics and Gynecology* B.S., 1970, George Mason University; M.D., 1974, Medical College of Virginia of Virginia Commonwealth University.
- Johnson, Carl H. (1977) *Instructor in Psychiatry* A.B., 1965, Dickinson College; M.A., 1973, Loyola College; Ph.D., 1975, University of Georgia.
- Johnson, Gail W. (1977) *Instructor in Maternal-Child Nursing* B.S., 1967, M.D., 1975, Medical College of Virginia of Virginia Commonwealth University.
- Johnson, George W. (1970) *Clinical Instructor in Surgery* B.S., 1959, M.D., 1960, Medical College of Virginia.
- Johnson, James H. (1971) *Associate Professor of Anatomy* B.A., 1966, University of Northern Iowa; Ph.D., 1970, University of California at Los Angeles.
- Johnson, John Gary (1978) *Instructor in Pharmacy* B.S., 1965, University of Nebraska.
- Johnson, Mary A. (1976) *Assistant Clinical Professor of Psychiatry* M.D., 1958, Louisiana State University.
- Johnston, Charles L., Jr. (1965) *Professor of Clinical Pathology* A.B., 1947, M.S., 1949, University of North Carolina; M.D., 1953, University of Pennsylvania.
- Johnston, Charles P., Jr. (1975) *Clinical Instructor in Pharmacy* B.S., 1961, Medical College of Virginia.
- Johnston, William B. (1957) *Assistant Clinical Professor of Pediatrics* B.A., 1949, Emory University in Atlanta; M.D., 1954, Medical College of Georgia.
- Johnstone, William T. (1970) *Clinical Instructor in Orthopedic Surgery* B.S., 1958, M.D., 1962, University of Maryland.
- Jollie, William P. (1969) *Professor and Chairman, Department of Anatomy* B.A., 1950, M.S., 1952, Lehigh University; Ph.D., 1959, Harvard University.
- Jones, Carlton L. (1954) *Associate Professor of Physical Therapy* B.S., 1936, Virginia State College; M.A., 1951, New York University.
- Jones, Clarence R. (1965) *Associate Professor of Restorative Dentistry* B.S., 1950, Virginia Polytechnic Institute; D.D.S., 1957, Medical College of Virginia.
- Jones, Donald K. (1976) *Assistant Clinical Professor of Psychiatry* A.B., 1953, Syracuse University; M.D., 1958, New York Medical College.
- Jones, George R. (1958) *Associate Clinical Professor of Obstetrics and Gynecology* B.S., 1934, M.S., 1936, Ph.D., 1938, University of Florida; M.D., 1946, Medical College of Virginia.
- Jones, Jacquelyn M. (1978) *Clinical Associate in Psychiatric Nursing* B.S.N., 1964, East Carolina University; M.S., 1971, University of Maryland.
- Jones, Jeannette A. (1971) *Assistant Professor of Community Health Nursing* B.S.N., 1965, East Carolina University; M.S., 1970, University of Maryland.
- Jones, John (1978) *Clinical Instructor in Community Dentistry* B.S., 1964, Virginia Union University; D.D.S., 1974, Howard University.
- Jones, John P. (1960) *Clinical Instructor in Pediatrics* M.D., 1937, Medical College of Virginia.
- Jones, John R. (1972) *Professor of Anesthesiology* B.S., 1946, M.D., 1951, University of Michigan.
- Jones, Perry E. (1977) *Clinical Instructor in Oral Pathology* B.S., 1970, University of Richmond; D.D.S., 1974, Medical College of Virginia of Virginia Commonwealth University.
- Jones, Welson E., Jr. (1977) *Clinical Instructor in Pharmacy* B.S., 1973, Medical College of Virginia of Virginia Commonwealth University.
- Jones, William R., Jr. (1958) *Clinical Associate in Surgery (Urology)* B.S., 1937, Hampden-Sydney College; M.D., 1941, Medical College of Virginia.
- Jordan, Robert L. (1970) *Associate Professor of Anatomy* B.S., 1965, Florida Southern College; Ph.D., 1969, University of Cincinnati.
- Jordan, William P., Jr. (1971) *Associate Professor of Dermatology* B.S., 1960, Belmont Abbey College; M.D., 1964, Bowman Gray School of Medicine.
- Joseph, Antony (1978) *Instructor in Psychiatry* M.B.B.S., 1971, Kottayam Medical College, India.
- Kahn, Joel S. (1975) *Clinical Instructor in Pharmacy* B.S., 1965, University of Connecticut.
- Kallar, Baltej Singh (1975) *Clinical Instructor in Rehabilitation Medicine* M.D., 1964, Medical College Patiala.
- Kallar, Surinder K. (1975) *Assistant Professor of Anesthesiology* F.Sc., 1960, Government College, India; M.B.B.S., 1966, Medical College, India.

Board, Administration, and Faculty

- Kan, Philip T. (1977) *Assistant Professor of Radiology* B.S., 1969, M.S., 1972, Ph.D., 1975, University of Massachusetts.
- Kane, Francis R. (1976) *Director of Data Acquisition Facility and Assistant Professor of Computer Science* B.S., 1965, Loyola College; M.S., 1970, Ph.D., 1973, College of William and Mary.
- Kane, Richard D. (1977) *Clinical Instructor in Surgery* B.A., 1967, St. Mary's College; M.D., 1971, Northwestern University School of Medicine.
- Kannan, Michael M. (1971) *Assistant Clinical Professor of Pediatrics* B.S., 1960, M.D., 1964, University of North Carolina.
- Kaplan, Alan M. (1972) *Professor of Surgery and Microbiology* B.S., 1963, Tufts University; Ph.D., 1969, Purdue University.
- Kaplan, Herbert W. (1978) *Instructor in Orthodontics* D.D.S., 1952, Ohio State University; M.S. and Certificate in Orthodontics, 1977, University of Detroit.
- Karselis, Terence C. (1977) *Associate Professor of Medical Technology* B.Sc., 1967, M.Sc., 1973, State University of New York, Buffalo.
- Kasha, Elaine C., (1979) *Instructor in Nurse Anesthesia* B.S., 1977, California State College.
- Kaugars, George E. (1977) *Clinical Instructor in Oral Pathology* B.S., 1971, Florida State University; D.D.S., 1975, Medical College of Virginia of Virginia Commonwealth University.
- Kay, Saul (1950) *Professor of Pathology* B.A., 1936, New York University; M.D., 1939, New York Medical College.
- Kay, William R. (1973) *Associate Clinical Professor of Medicine, Director, Student Health Service* B.S., 1940, Hampden-Sydney College; M.D., 1943, Medical College of Virginia.
- Keckler, Rita M., (1979) *Clinical Instructor in Physical Therapy* B.S., 1973, Russell Sage College.
- Keefe, William E. (1976) *Associate Professor of Microbiology* B.S., 1959, M.S., 1964, Virginia Polytechnic Institute and State University; Ph.D., 1967, Medical College of Virginia.
- Keenan, Richard L. (1977) *Professor of Anesthesiology* M.D., 1957, Creighton University.
- Keenan, Wilhelmine A. (1977) *Clinical Instructor in Nurse Anesthesia* B.A., 1972, C.R.N.A., 1973, Columbia University.
- Keeton, James M., Jr. (1975) *Assistant Clinical Professor of Pedodontics* B.A., 1968, Vanderbilt University; D.M.D., 1972, University of Kentucky.
- Kell, Joseph F., Jr. (1962) *Assistant Clinical Professor of Neurological Surgery* B.A., 1940, University of Kansas; M.D., 1943, Yale University.
- Keller, Marjorie J. (1971) *Associate Professor of Community Health Nursing* B.S.N., 1951, University of Connecticut; M.S., 1963, Boston University.
- Kellett, Gordon N., II (1977) *Assistant Professor of Pediatrics* B.S., 1968, College of William and Mary; M.D., 1972, Medical College of Virginia of Virginia Commonwealth University.
- Kelly, Gerald B. (1978) *Clinical Instructor in Dental Hygiene* B.A., 1964, Southern Missionary College; D.D.S., 1967, University of Tennessee.
- Kelly, John J., III (1956) *Professor of Medicine* M.D., 1948, Medical College of Virginia.
- Kelly, Leonard W., Jr. (1972), *Assistant Clinical Professor of Dermatology*, B.S., 1962, M.D., 1966, University of Virginia.
- Kelsey, Gerdi D. (1974) *Associate Clinical Professor of Family Practice* B.A., 1963, Lycoming College; M.D., 1967, Temple University Medical School.
- Kemp, Eric V. (1978) *Associate Professor of Medicine* B.S., 1948, University of Richmond; M.D., 1953, Medical College of Virginia.
- Kemp, Susan R. (1968) *Assistant Professor of Psychiatry (Education)* B.A., 1953, University of Michigan; M.Ed., 1967, University of Virginia.
- Kemp, William B. (1974) *Associate Professor of Endodontics* A.B., 1963, Catholic University; D.D.S., 1967, State University of New York.
- Kendig, Edwin L., Jr. (1954) *Professor of Pediatrics* B.A., 1932, B.S., 1933, Hampden-Sydney College; M.D., 1936, University of Virginia.
- Kendig, Robert O. (1978) *Instructor in Pedodontics* B.S., 1970, Randolph-Macon College; D.D.S., 1977, Medical College of Virginia of Virginia Commonwealth University.
- Kendrick, John F. (1963) *Assistant Clinical Professor of Neurological Surgery* A.B., 1943, University of North Carolina; M.D., 1946, Washington University.
- Kenley, James B. (1976) *Clinical Instructor in Preventive Medicine* B.A., 1948, Asbury College; M.D., 1952, University of Virginia; M.P.H., 1959, Johns Hopkins University.
- Kennedy, James E. (1972) *Professor of Periodontics and Dean, School of Dentistry* B.S., 1958, Union College; D.D.S., 1962, University of Pennsylvania; M.S., 1969, University of Rochester.
- Kennedy, Norman David (1977) *Clinical Instructor in Pharmacy* B.S., 1971, Medical College of Virginia of Virginia Commonwealth University.
- Kern, Marguerite A. (1965) *Clinical Instructor in Pediatrics* M.D., 1962, Medical College of Virginia.

Board, Administration, and Faculty

- Koller, Stephen R. (1975) *Assistant Clinical Professor of Medicine* B.S.E., 1966, Princeton University; M.M.S., 1968, Rutgers Medical School; M.D., 1970, Mount Sinai School of Medicine.
- Konerding, Karsten (1976) *Assistant Professor of Radiology* B.S., 1968, M.D., 1970, Northwestern University.
- Kontos, Hermes A. (1964) *Professor of Medicine and Chairman, Division of Cardio-Pulmonary Medicine* M.D., 1958, University of Athens; Ph.D., 1967, Medical College of Virginia.
- Koontz, Warren W., Jr. (1966) *Professor of Surgery and Chairman, Division of Urology* B.A., 1953, Virginia Military Institute; M.D., 1957, University of Virginia.
- Krahl, Maurice E. (1977) *Adjunct Professor of Physiology* A.B., 1929, DePauw University; Ph.D., 1932, Johns Hopkins University.
- Kramer, William M. (1970) *Associate Clinical Professor of Pathology* A.B., 1950, Princeton University; M.D., 1954, Harvard University.
- Kraus, Harry L. (1975) *Assistant Clinical Professor of Family Practice* B.A., 1951, Bridgewater College; M.D., 1955, Medical College of Virginia.
- Kreisler, Leslie S. (1977) *Clinical Instructor in Otolaryngology* B.S. Brooklyn College; M.D., 1969, Hahnemann Medical College.
- Krieg, Richard J., Jr. (1975) *Assistant Professor of Anatomy* B.S., 1967, University of San Francisco; M.S., 1969, Ph.D., 1975, University of California, Davis.
- Kriegman, George (1964) *Clinical Professor of Psychiatry* B.A., 1939, M.S., 1942, M.D., 1943, University of Illinois.
- Kriegman, Lois S. (1964) *Assistant Clinical Professor of Psychiatry* B.A., 1940 University of Illinois; M.A., 1941, State University of Iowa.
- Kritkausky, R. Peter (1977) *Instructor in Psychiatry* B.A., 1970, Colgate University; M.A., 1974, Ph.D., 1975, University of Louisville.
- Kroll, Ronald N. (1973) *Clinical Instructor in Medicine* A.B., 1963, Duke University; M.D., 1967, Hahnemann Medical College.
- Kumarasamy, Thampu (1975) *Associate Professor of Obstetrics and Gynecology* M.B.B.S., 1958, University of Ceylon.
- Kuperminc, Denise S. (1971) *Clinical Instructor in Pediatrics* M.D., University of Buenos Aires.
- Kuperminc, Mario (1970), *Associate Clinical Professor of Medicine*, M.D., 1959, University of Buenos Aires.
- Kur, Helen Ann (1977) *Instructor in Library Sciences* B.A., 1970, Ithaca College; M.S., 1973, University of Maryland.
- Lacey, Linda A. (1969) *Assistant Professor of Medical-Surgical Nursing* B.S.N., 1962, University of Virginia; M.S., 1970, Virginia Commonwealth University.
- LaFratta, Carl W. (1958) *Associate Clinical Professor of Rehabilitation Medicine* M.D., 1931, Medical College of Virginia.
- Lamb, Charles R., Jr. (1975) *Assistant Professor of Rehabilitation Medicine* B.S., 1960, Guilford College; M.D., 1963, Bowman Gray School of Medicine.
- Lamb, Robert G. (1976) *Assistant Professor of Medicine and Pharmacology*, A.B., 1967, Ph.D., 1970, University of North Carolina.
- Lamb, Robert L. (1968) *Associate Professor of Physical Therapy* B.S., 1962, Slippery Rock State College; M.S., 1968, Boston University.
- Lambert, Frank Warren, Jr. (1975) *Adjunct Associate Professor of Microbiology* B.A., 1955, Bridgewater College; M.P.A., 1962, Ph.D., 1965, University of North Carolina.
- Lance, James R. (1972) *Assistant Clinical Professor of Endodontics*, D.D.S., 1968, Ohio State University.
- Landwehr, Douglas (1976) *Associate Professor of Medicine* B.S., 1960, Ph.D., 1964, M.D., 1971, Tulane University.
- Lang, Bela (1978) *Assistant Professor of Surgery* M.D., 1963, Medical University of Budapest.
- Lankford, Robert (1978) *Clinical Instructor in Dental Hygiene* B.S., 1968, Virginia Union University; M.S., 1972, Virginia State College; D.D.S., 1976, Medical College of Virginia of Virginia Commonwealth University.
- LaPrade, Edmund M. (1958) *Assistant Clinical Professor of Otolaryngology* M.D., 1935, Medical College of Virginia.
- Lara, Ethelbert N. (1977) *Instructor in Radiology* B.S., 1963, M.D., 1969, University of Santo Thomas, Manila, Philippines.
- Larson, John G. (1976) *Assistant Professor of Health Administration* B.S., 1968, University of Richmond; M.A.A., 1971, Medical College of Virginia of Virginia Commonwealth University; Ph.D., 1974, University of Manchester.
- Lash, Myles P. (1979) *Executive Director, Medical College of Virginia Hospitals, and Assistant Professor of Health Administration* B.S., 1968, Wayne State University; M.H.A., 1970, University of Michigan.
- Lavecchia, Carolyn C. (1978) *Assistant Professor of Family Nurse Practitioner Program* A.S., 1968, Ferrum Junior College; B.S.N., 1970, University of Virginia; M.S., 1974, University of Tennessee.
- Lawrence, Walter, Jr. (1966) *Director of Cancer Center; Professor of Surgery* Ph.B., 1944, S.G., 1945, M.D., 1948, University of Chicago.
- Laychock, Suzanne (1978) *Assistant Professor of Pharmacology* B.S., 1971, Brooklyn College; M.A., 1973, City University of New York;

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- Kernodle, Judith M. (1977) *Clinical Instructor in Psychiatry* B.A., 1969, M.D., 1973, University of Tennessee.
- Kessler, Fred N. (1975) *Clinical Instructor in Removable Prosthodontics* B.A., 1971, University of Virginia; D.D.S., 1975, Medical College of Virginia of Virginia Commonwealth University.
- Key, Wendell W. (1970) *Clinical Instructor in Medicine* B.S., 1960, University of Richmond; M.D., 1964, Medical College of Virginia.
- Kiefer, Rodney L. (1973) *Clinical Instructor in General and Preventive Dentistry* B.S., 1960, D.D.S., 1964, University of Pittsburgh.
- Kier, Lemont B. (1977) *Professor and Chairman, Department of Pharmaceutical Chemistry* B.S., 1954, Ohio State University; Ph.D., University of Minnesota.
- Kilpatrick, S. James, Jr. (1965) *Professor and Chairman, Department of Biostatistics* B.Sc., 1954, M.Sc., 1957, Ph.D., 1960, Queen's University of Belfast.
- Kincaid, Raymond L., Jr. (1973) *Clinical Instructor in Pharmacy* B.S., 1962, Medical College of Virginia.
- King, Audrey C. (1957) *Clinical Instructor in Pediatrics* A.B., 1947, Barnard College; M.D., 1951, State University of New York.
- King, E. David (1977) *Clinical Instructor in Restorative Dentistry* B.S., 1969, Wake Forest University; D.D.S., 1976, Medical College of Virginia of Virginia Commonwealth University.
- King, Donald P. (1956) *Assistant Clinical Professor of Radiology* B.A., 1943, Indiana University; M.D., 1946, George Washington University.
- King, E. Richard (1961) *Professor and Chairman, Division of Radiation Therapy and Oncology* B.A., 1939, M.D., 1941, Ohio State University.
- King, Lucy Jane (1974) *Professor of Psychiatry and Pharmacology* A.B., 1954, M.D., 1958, Washington University.
- King, Robert G., Jr. (1973) *Associate Clinical Professor of Ophthalmology* B.A., 1958, Virginia Military Institute; M.D., 1962, University of Virginia.
- King, Wallace W. (1977) *Clinical Instructor in Community Dentistry* B.S., 1961, D.D.S., 1965, Howard University.
- Kintigh, James William (1975) *Assistant Clinical Professor of Family Practice* B.A., 1963, Goshen College; M.D., 1957, Indiana University.
- Kipreos, Barbara (1974) *Clinical Instructor in Pathology* M.D., 1958, University of Leiden Medical School, The Netherlands.
- Kirby, David A. (1976) *Clinical Instructor in Obstetrics and Gynecology* B.S., 1968, M.D., 1972, Medical College of Virginia of Virginia Commonwealth University.
- Kirschbaum, Barry B. (1977) *Associate Professor of Medicine* B.A., 1961, Columbia College; M.D., 1965, Washington University.
- Kirchmier, Raymond S., II (1968) *Clinical Instructor in Pediatrics* B.S., 1959, Virginia Polytechnic Institute; M.D., 1963, Medical College of Virginia.
- Kirchoff, Rodney H. (1978) *Assistant Clinical Professor of Removable Prosthodontics* D.D.S., 1963, Indiana University.
- Kirkpatrick, Barry V. (1973) *Associate Professor of Pediatrics* B.S., 1962, University of Richmond; M.D., 1966, Medical College of Virginia.
- Kirschner, Lawrence B. (1973) *Assistant Professor of Radiology, School of Medicine, and Assistant Professor of Radiologic Technology, School of Allied Health Professions* B.S., 1971, St. Louis University; M.S., 1972, University of Cincinnati.
- Kishore, Pulla R. S. (1977) *Associate Professor of Radiology* B.Sc., 1956, Osmania University, Hyberabad; M.B.B.S., 1962, Osmania Medical College.
- Kissinger, Jeanette B. (1967) *Associate Professor of Medical-Surgical Nursing* B.S., 1953, The College of St. Catherine; M.Ed., 1955, University of Minnesota.
- Kittinger, Richard K. (1975) *Clinical Instructor in Pharmacy* B.S., 1972, Medical College of Virginia of Virginia Commonwealth University.
- Klein, Arthur (1954) *Clinical Professor of Medicine* A.B., 1936, Amherst College; M.D., 1940, Johns Hopkins University.
- Kline, Berry J. (1976) *Associate Professor of Pharmacy* B.S., 1962, Philadelphia College of Pharmacy and Science; M.S., 1965, Temple University; Ph.D., 1968, University of Wisconsin.
- Kline, Edward S. (1963) *Associate Professor of Biochemistry* B.A., 1948, University of Pennsylvania; M.S., 1955, Ph.D., 1961, George Washington University.
- Knaysi, Fred A. (1978) *Clinical Instructor in Community Dentistry* B.A., 1973, Cornell University; D.D.S., 1978, Medical College of Virginia of Virginia Commonwealth University.
- Knaysi, George A., Jr. (1974) *Assistant Clinical Professor of Surgery* B.S., 1961, Cornell University; M.D., 1965, Upstate Medical Center.
- Kodroff, Michael B. (1974) *Associate Professor of Radiology* B.S., 1963, Albright College; M.D., 1967, Jefferson Medical College.
- Kohout, Elfriede (1974) *Clinical Professor of Pathology* M.D., 1952, University of Vienna.
- Kolb, Herbert R. (1979) *Assistant Clinical Professor of Removable Prosthodontics* B.S., 1942, Long Island University; D.D.S., 1945, Temple University.

Board, Administration, and Faculty

- Ph.D., 1976, Medical College of Virginia of Virginia Commonwealth University.
- Layman, David A. (1975) *Assistant Clinical Professor of Family Practice* B.A., 1961, Bridgewater College; M.D., 1965, Medical College of Virginia.
- Leary, Bruce A. (1977) *Assistant Professor of Community Dentistry* A.A., 1967, St. Petersburg Junior College; B.I.E., 1970, University of Florida; D.D.S., 1976, Medical College of Virginia of Virginia Commonwealth University.
- Leary, Lynda G. (1977) *Instructor in Educational Planning and Development* B.S., 1971, University of Florida.
- Lee, Hyung Mo (1963) *Professor of Surgery and Chairman, Division of Vascular General Surgery* B.S., 1945, Keijo Imperial University, Korea; M.D., 1949, Seoul National University, Korea.
- Lee, Richard M. (1960) *Clinical Instructor in Pediatrics* B.S., 1951, M.D., 1955, Medical College of Virginia.
- Lee, William G. (1974) *Assistant Professor of Restorative Dentistry* B.S., 1969, Florida State University; D.D.S., 1973, Medical College of Virginia of Virginia Commonwealth University.
- Leech, John C. (1978) *Assistant Professor of Pedodontics* B.S., 1963, Pennsylvania State University; D.D.S., 1976, Medical College of Virginia of Virginia Commonwealth University.
- Lefcoe, Sanford, (1979) *Assistant Clinical Professor of Community Dentistry* D.D.S., 1948, Medical College of Virginia.
- LeHew, Richard A. (1968) *Assistant Clinical Professor of Orthodontics* B.S., 1959, Hampden-Sydney College; D.D.S., 1963, Medical College of Virginia.
- Leichnetz, George R. (1970) *Associate Professor of Anatomy* B.S., 1964, Wheaton College; M.S., 1966, Ph.D., 1970, Ohio State University.
- Leinbach, Thomas E. (1977) *Clinical Instructor in Community Dentistry* B.A., 1970, East Carolina University; D.D.S., 1974, Medical College of Virginia of Virginia Commonwealth University.
- Lenhardt, Martin L. (1971) *Associate Professor of Pediatric Dentistry and Otolaryngology* B.S., 1966, M.A., 1968, Seton Hall University; Ph.D., 1970, Florida State University.
- Lenke, Elizabeth H., (1979) *Instructor in Radiologic Technology* B.S., 1973, Virginia Polytechnic Institute and State University.
- Levasseur, Joseph E. (1970) *Research Associate in Medicine* B.S., 1959, Georgetown University; M.S., 1967, Medical College of Virginia.
- Leverty, Alexander P., II (1965) *Assistant Clinical Professor of Pediatrics* B.S., 1956, Hampden-Sydney College; M.D., 1960, Medical College of Virginia.
- Levy, Theodore (1969) *Assistant Clinical Professor of Medicine (Podiatry)* D.S.C., 1948, Chicago College of Chiropractic.
- Lewis, Stephen (1978) *Instructor in Medicine* B.S., 1971, West Virginia University; M.D., 1976, Medical College of Virginia of Virginia Commonwealth University.
- Lewis, Thomas (1976) *Assistant Professor of Medicine* B.A., 1964, Washington and Lee University; M.D., 1973, University of Virginia.
- Liberti, Joseph P. (1967) *Professor of Biochemistry* B.S., 1959, Farleigh Dickinson University; M.S., 1962, Ph.D., 1964, Loyola University.
- Lieb, Richard J. (1975) *Assistant Professor of Anatomy and General and Preventive Dentistry* B.S., 1968, Parsons College; M.S., 1970, Ph.D., 1973, D.M.D., 1975, Medical College of Georgia.
- Lim, Franklin (1964) *Associate Professor of Clinical Pathology* B.S., 1951, B.A., 1952, Silliman University; M.S., 1958, Ph.D., 1960, Purdue University.
- Lindamood, Mary O. (1976) *Clinical Instructor in Pharmacy* B.S., 1967, M.S., 1974, Medical College of Virginia of Virginia Commonwealth University.
- Lindemann, Lillian C. (1955) *Clinical Associate in Pediatrics and Assistant Clinical Professor of Psychiatry* B.A., Sarah Lawrence College; M.D., 1949, Columbia College.
- Link, Kurt (1978) *Assistant Professor of Medicine* B.S., 1957, City College of New York; M.D., 1961, Albert Einstein College of Medicine.
- Lipper, Maurice H. (1977) *Assistant Professor of Radiology* M.B., Ch.B., 1957, University of Capetown Medical School, Capetown, South Africa.
- Lippman, Lynn S. (1978) *Instructor in Maternal-Child Nursing* B.S.N., 1973, Hunter College.
- Lisle, Jamie L. (1977) *Clinical Instructor in Physical Therapy* B.S., 1951, Medical College of Virginia.
- Littman, Bruce (1976) *Assistant Professor of Medicine* B.S., 1966, University of Wisconsin; M.D., 1970, State University of New York at Buffalo.
- Logue, Randall (1977) *Clinical Instructor in Restorative Dentistry* B.S. 1966, Georgetown University; M.B.A., 1971, University of Maryland; D.D.S., 1976, Medical College of Virginia of Virginia Commonwealth University.
- Lombardo, G. J. (1978) *Clinical Instructor in Community Dentistry* B.S., 1937, St. John's University; D.D.S., 1941, New York University.
- Longacher, Joseph W., Jr. (1977) *Clinical Instructor in Medicine* B.S., 1959, Eastern Mennonite College; M.D., 1963, Medical College of Virginia.

Board, Administration, and Faculty

- Longan, R. Coleman, Jr. (1958) *Associate Clinical Professor of Psychiatry* B.A., 1935, University of Richmond; M.D., 1939, Medical College of Virginia.
- Loria, Roger M. (1973) *Associate Professor of Microbiology* B.S., 1964, Bar-Ilan University, Ramat-Gan, Israel; M.S., 1968, State University of New York; Ph.D., 1972, Boston University of Medicine.
- Loveland, Catherine, (1979) *Assistant Professor of Occupational Therapy* B.A., 1963, Duke University; M.S., 1974, Virginia Commonwealth University.
- Loving, Cynthia (1976) *Clinical Instructor in Periodontics* B.S., 1972, University of Kentucky.
- Loving, Robert (1976) *Assistant Clinical Professor of Periodontics* B.S., 1967, Hampden-Sydney College; D.M.D., 1971, University of Kentucky.
- Lovinger, Robert David (1977) *Assistant Professor of Pediatrics* B.A., 1963, University of Delaware; M.D., 1969, University of Miami; Ph.D., 1975, University of California.
- Lowe, Cameron A. (1979) *Assistant Clinical Professor of Endodontics* D.D.S., 1970, Georgetown University.
- Lowenthal, Werner (1961) *Professor of Pharmacy and Pharmaceutics and Director of Continuing Education* B.S., 1953, Union University, New York; M.S., 1955, Ph.D., 1958, University of Michigan.
- Lower, Richard R. (1965) *Professor of Surgery and Chairman, Division of Thoracic and Cardiac Surgery* A.B., 1951, Amherst College; M.D., 1955, Cornell University.
- Lubin, Bernard A. (1968) *Clinical Instructor in Orthopedic Surgery* B.A., 1956, Yale University; M.D., 1960, New York University.
- Lujan, Miguel (1975) *Adjunct Instructor in Pharmacology* B.S., 1967, Escuela Nacional Preparatoria; M.D., 1973, School of Medicine, University of Mexico.
- Lum, Natalie I. (1963) *Clinical Instructor in Pediatrics* B.A., 1944, University of Richmond; M.D., 1948, Medical College of Virginia.
- Lundeen, William B. (1964) *Associate Clinical Professor of Radiology* B.S., 1954, M.D., 1955, Medical College of Virginia.
- Lurie, Harry I. (1961) *Professor of Academic Pathology and Professor of Medicine* B.S., 1932, M.B., Ch.B., 1936, University of the Witwatersrand; M.R.C.Path., 1969, Royal College of Pathologists.
- Luton, James G. (1975) *Assistant Professor of General and Preventive Dentistry* B.S., 1949, University of South Carolina; D.D.S., 1962, University of Tennessee.
- Lynch, Robert L. (1954) *Assistant Professor of Clinical Pathology* B.S., 1947, West Virginia Wesleyan College; M.S., 1960, Medical College of Virginia.
- MacMillan, David W. (1971) *Clinical Instructor in Ophthalmology* B.A., 1959, College of Wooster; M.D., 1963, University of Virginia.
- MacMillan, James M. (1958) *Assistant Clinical Professor of Medicine* A.B., 1933, College of Wooster; M.D., 1937, Western Reserve University.
- Macrina, Francis Louis (1974) *Associate Professor of Microbiology* B.S., 1968, Cornell University; Ph.D., 1972, Syracuse University.
- Macys, Joseph R. (1973) *Clinical Instructor in Orthopedic Surgery* B.A., 1961, Western Reserve University; M.D., 1965, Ohio State University.
- Madge, Gordon E. (1959) *Professor of Pathology* M.D., 1953, University of Maryland.
- Makarowsky, Eugene E. (1962) *Assistant Clinical Professor of Psychiatry* M.D., 1941, First Moscow Medical Institute.
- Makhlouf, Gabriel (1970) *Professor of Medicine* M.D., 1953, Liverpool University; M.R.C.P., 1962, Royal College of Physicians; Ph.D., 1965, University of Edinburgh.
- Malbon, Bennett A. (1961) *Assistant Clinical Professor of Oral Surgery* B.S., 1954, Randolph-Macon College; D.D.S., 1958, Medical College of Virginia.
- Mamunes, Peter (1969) *Professor and Vice-Chairman, Department of Pediatrics* A.B., 1957, Cornell University; M.D., 1961, New Jersey College of Medicine.
- Mancini, Joan M. (1962) *Assistant Professor of Nursing* B.S., 1950, Medical College of Virginia.
- Mansell, Richard H. (1977) *Clinical Instructor in Community Dentistry* A.A., 19668 Monatee Junior College; B.S., 1971, Florida State University; D.D.S., 1975, Medical College of Virginia of Virginia Commonwealth University.
- Mansfield, Richard (1976) *Assistant Professor and Acting Associate Director of Continuing Medical Education* B.S., 1963, Atlantic Christian College; M.S., 1970, Old Dominion University; Ed.D., 1976, North Carolina State University.
- Manson, R. Campbell (1954) *Clinical Professor of Dermatology* B.S., 1930, Randolph-Macon College; M.D., 1934, Medical College of Virginia.
- Mapp, John A. (1974) *Associate Clinical Professor of Family Practice* B.A., 1954, Virginia Military Institute; M.D., 1958, University of Virginia.
- Markham, J., David (1958) *Clinical Associate in Medicine* B.A., 1937, Columbia College; M.D., 1941, Medical College of Virginia.
- Markowitz, Martin (1958) *Clinical Professor of Surgery* B.A., 1941, University of Richmond; M.D., 1944, Medical College of Virginia.

Board, Administration, and Faculty

- Markowitz, Sheldon M. (1975) *Assistant Professor of Medicine* B.S., 1964, University of Richmond; M.D., 1968, Medical College of Virginia of Virginia Commonwealth University.
- Marks, Norman J. (1978) *Instructor in Oral Pathology* B.S., 1967, University of South Carolina; D.D.S., 1971, Medical College of Virginia of Virginia Commonwealth University.
- Marshall, Thomas F., Jr. *Clinical Instructor in Pharmacy* B.S., 1949, Medical College of Virginia.
- Marsland, David W. (1973) *Professor of Family Practice* A.B., 1963, Clark University; M.D., 1967, Albany Medical College of Union University.
- Martell, David A. (1973) *Clinical Instructor in Pharmacy* B.S., 1970, Medical College of Virginia of Virginia Commonwealth University.
- Martin, Berkeley H., Jr. (1958) *Assistant Clinical Professor of Ophthalmology* B.S., 1937, University of Richmond; M.D., 1942, Medical College of Virginia.
- Martin, Billy R. (1976) *Assistant Professor of Pharmacology* A.B., 1965, Ph.D., 1974, University of North Carolina.
- Martin, E. Davis, Jr. (1975) *Assistant Professor of Allied Health* B.S., 1968, Richmond Professional Institute; M.S., 1970, Virginia Commonwealth University.
- Martin, Frederick E., (1979) *Clinical Instructor in Oral Pathology* B.S., 1974, University of Richmond; D.D.S., 1978, Medical College of Virginia of Virginia Commonwealth University.
- Martin J. Harry (1978) *Instructor in Radiologic Technology* B.S., 1971, Alderson Broadus College.
- Martin, Richard DeWayne (1978) *Instructor in Pharmacy* B.S., 1967, Medical College of Virginia.
- Martin, William W., Jr. (1959) *Assistant Clinical Professor of Medicine* S.B., 1950, M.D., 1954, Johns Hopkins University.
- Martinez-Carrion, Marino (1977) *Professor and Chairman, Department of Biochemistry* B.A., 1959, M.A., 1961, Ph.D., 1964 University of California, Berkeley.
- Mason, Roland L. (1977) *Assistant Professor of Allied Health Education and Assistant Dean for V. A. Hospital Affairs, School of Allied Health Professions*
- Masri, Asad M. (1966) *Assistant Clinical Professor of Psychiatry* B.S., 1957, University of Cincinnati; M.D., 1962, University of Virginia.
- Massey, Charles W. (1953) *Associate Clinical Professor of Radiology* B.S., 1943, College of William and Mary; M.D., 1946, Medical College of Virginia.
- Massie, Francis S. (1977) *Clinical Associate Professor of Pediatrics* A.B., 1957, M.D., 1960, Duke University.
- Master, Sherman (1967) *Clinical Instructor in Psychiatry* A.B., 1957, University of Virginia; M.D., 1961, Medical College of Virginia.
- Masters, Lawrence E. (1973) *Clinical Instructor in Pedodontics* D.D.S., 1973, Medical College of Virginia of Virginia Commonwealth University.
- Mathers, James A. L. (1977) *Assistant Professor of Medicine* B.A., 1967, Bowdoin College; M.D., 1972, Columbia University.
- Mathews, Emmett C., Jr. (1977) *Assistant Clinical Professor of Medicine* A.B., 1964, Duke University; M.D., 1968, University of Virginia.
- Mathews, Emmett C. (1954) *Assistant Clinical Professor of Medicine* B.S., 1930, University of Richmond; M.D., 1934, Medical College of Virginia.
- Mathur, Pershottam (1977) *Adjunct Assistant Professor of Pharmacology* B.S., 1957, University of Delhi, India; Ph.D., 1968, University of Florida.
- Mauck, H. P., Jr. (1956) *Professor of Pediatrics and Medicine* B.A., 1948, M.D., 1952, University of Virginia.
- Mauck, William R. (1962) *Assistant Clinical Professor of Orthopedic Surgery* B.A., 1952, Washington and Lee University; M.D., 1956, Medical College of Virginia.
- Mauil, Kimball I. (1976) *Associate Professor of Surgery* B.A., 1963, University of Virginia; M.D., 1967, Cornell University.
- Mauney, Jacob L., Jr. (1971) *Assistant Professor of Patient Counseling* B.A., 1960, Roanoke College; M.Div., 1964, Lutheran Theological Southern Seminary.
- Maurer, Harold M. (1968) *Professor and Chairman, Department of Pediatrics* A.B., 1957, New York University; M.D., 1961, State University of New York, Downstate Medical Center.
- Maurer, Patti A. (1974) *Professor and Chairman, Department of Occupational Therapy* B.S., 1957, Ohio State University; Ed.M., 1958, Boston University; Ph.D., 1964, Purdue University.
- May, Everette Lee (1974) *Adjunct Professor of Pharmacology* B.A., 1935, Bridgewater College; Ph.D., 1939, University of Virginia.
- May, James (1978) *Assistant Professor of Medicine* B.S., 1969, Yale University; M.D., 1973, Vanderbilt University.
- May, Virgil R., Jr. (1958) *Assistant Clinical Professor of Orthopedic Surgery* B.S., 1940, Hampden-Sydney College; M.D., 1943, Medical College of Virginia.
- Mayer, David J. (1972) *Professor of Physiology* B.A., 1966, Hunter College; Ph.D., 1971, University of California, Los Angeles.

Board, Administration, and Faculty

- Mayer, Walter (1958) *Associate Clinical Professor of Ophthalmology* M.D., 1949, University Zaragoza, Spain
- Mayfield, Susan (1978) *Instructor in Internal Medicine* B.A., 1970, Swarthmore College; M.S., 1972, M.D., 1974, University of Iowa.
- Mayhall, Glenn C. (1975) *Assistant Professor of Medicine and MCV Hospitals Epidemiologist* B.A., 1961, Washington University; M.D., 1966, Baylor University.
- Maynard, John Gary, Jr. (1970) *Clinical Professor of Periodontics* B.A., 1958, Davidson College; D.D.S., 1962, Medical College of Virginia.
- Mayo, Fitzhugh (1970) *Professor of Medicine and Chairman, Department of Family Practice* B.S., 1947, Virginia Polytechnic Institute; M.D., 1955, Medical College of Virginia.
- Mazmanian, Paul E. (1978) *Assistant Professor of Continuing Medical Education* B.S., 1972, Wayne State University; M.A., 1975, Michigan State University; Ph.D., 1978, University of Michigan.
- McAuley, William J. (1978) *Assistant Professor of Gerontology* B.A., 1968, University of North Carolina at Charlotte; Ph.D., 1974, Pennsylvania State University.
- McCasland, John P. (1976) *Associate Professor of Removable Prosthodontics* B.A., 1953, Howard Payne College; D.D.S., 1957, Baylor University.
- McClung, John R. (1974) *Assistant Professor of Anatomy* B.S., 1966, Auburn University; Ph.D., 1971, University of Texas.
- McClure, James N., Jr. (1978) *Professor of Psychiatry* A.B., 1951, Washington University; M.D., 1955, Washington University School of Medicine.
- McComb, Jack C. (1978) *Clinical Instructor in Restorative Dentistry* B.S., 1973, Randolph-Macon College; D.D.S., 1977, Medical College of Virginia of Virginia Commonwealth University.
- McCook, Patricia A. (1976) *Assistant Instructor in Nursing* B.S., 1971, Medical College of Virginia of Virginia Commonwealth University.
- McCord, Elizabeth G. (1977) *Assistant Instructor in School of Nursing (Community Health)* B.S., 1974, FNP Certificate, 1976, M.S., 1977, Medical College of Virginia.
- McCorkle, Maston R. (1978) *Instructor in Pedodontics* B.S., 1974, Virginia Polytechnic Institute and State University; D.D.S., 1978, Medical College of Virginia of Virginia Commonwealth University.
- McCrarey, Robert F. (1977) *Clinical Instructor in Psychiatry* B.A., 1969, Gannon College; M.S.S.W., 1973, Virginia Commonwealth University.
- McCue, Carolyn M. (1946) *Professor of Pediatrics and Chairman, Division of Pediatric Cardiology* A.B., 1937, Leland Stanford Junior University; M.D., 1941, Medical College of Virginia.
- McCue, Howard M., Jr. (1954) *Associate Clinical Professor of Medicine* B.S., 1937, University of Virginia; M.D., 1941, Medical College of Virginia.
- McDaniel, Claudette B. (1978) *Instructor in Occupational Therapy* B.A., 1964, Virginia Union University.
- McDonald, Marianne E. (1964) *Assistant Professor of Physical Therapy* B.S., 1954, University of North Carolina; B.S., 1958, Medical College of Virginia.
- McDonough, William Wallace (1965) *Associate Clinical Professor of Psychiatry* B.A., 1948, University of Virginia; M.D., 1958, Medical College of Virginia.
- McDougle, Mary Lynne (1978) *Instructor in Nurse Anesthesia* C.R.N.A., 1975, Medical College of Virginia of Virginia Commonwealth University.
- McDowell, Charles L. (1965) *Associate Clinical Professor of Orthopedic Surgery* B.S., 1955, Wake Forest College; M.D., 1959, Jefferson Medical College.
- McMunn, Michael O. (1979) *Clinical Instructor in Restorative Dentistry* B.A., 1968, Edinboro State College; D.D.S., 1977, Medical College of Virginia of Virginia Commonwealth University.
- McEntee, Robert B. (1958) *Clinical Associate in Medicine* M.D., 1953, Bowman Gray Medical School.
- McGee, Francis E., Jr. (1969) *Assistant Professor of Neurology* M.D., 1964, Medical College of Virginia.
- McGehee, Read F., Jr. (1973) *Associate Clinical Professor of Pathology and Medicine* B.S., 1957, Davidson College; M.D., 1961, Medical College of Virginia.
- McGrane, Harold J. (1973) *Clinical Instructor in General and Preventive Dentistry* D.D.S., 1943, Loyola University School of Dentistry.
- McGuire, Hunter H., Jr. (1963) *Professor of Surgery and Chief of Surgical Service at VA Hospital* B.A., 1951, University of Virginia; M.D., 1955, Medical College of Virginia.
- McIver, James E. (1962) *Professor and Chairman, Department of Orthodontics* D.D.S., 1945, Georgetown University; M.S., 1956, State University of Iowa.
- McKenney, James M. (1972) *Associate Professor of Pharmacy* B.S., 1965, Hampden-Sydney College; B.S. Pharm, 1968, Medical College of Virginia; Pharm. D., 1972, Wayne State University.
- McKennis, Herbert, Jr. (1953) *Professor of Pharmacology* S.B., 1938, Harvard University; Ph.D., 1945, Cornell University.

Board, Administration, and Faculty

- McKeown, Charles E. (1958) *Clinical Associate in Medicine* B.A., 1938, M.D., 1941, University of Wisconsin.
- McLaughlin, Julia G. (1977) *Clinical Instructor in Psychiatry* B.S., 1966, University of Virginia; M.S., 1974, Ph.D., 1976, Virginia Commonwealth University.
- McLean, J. Craig (1973) *Associate Professor of Library Sciences and Director, Tompkins McCaw Library* B.A., 1967, Florida Atlantic University; M.S., 1969, Florida State University.
- McMullan, Francis H. (1958) *Associate Clinical Professor of Dermatology* M.D., 1951, Medical College of Virginia.
- McNeer, Keith Wilson (1969) *Clinical Professor of Ophthalmology* B.S., 1955, Randolph-Macon College; M.D., 1959, Medical College of Virginia.
- McNeer, Paul R. (1971) *Clinical Instructor in Ophthalmology* B.S., 1956, Randolph-Macon College; M.D., 1962, Medical College of Virginia.
- McWilliams, Nancy B. (1972) *Associate Professor of Pediatrics* B.A., 1948, Manhattanville College; M.D., 1966, Woman's Medical College of Pennsylvania.
- Mears, Gene C. (1978) *Clinical Instructor in Community Dentistry* B.S., 1972, University of Richmond; D.D.S., 1977, Medical College of Virginia of Virginia Commonwealth University.
- Meiller, Joan M. (1962) *Associate Clinical Professor of Psychiatry, Child Psychiatry* A.B., 1948, Mount Holyoke College; M.D., 1952, New York State University.
- Mellette, Susan J. (1956) *Professor of Medicine, Oncology* A.B., 1942, Meredith College; M.D., 1947, University of Cincinnati.
- Meltzer, Harvey J. (1973) *Assistant Clinical Professor of Pharmacy* B.S., 1951, University of Mississippi.
- Melzig, Eric P. (1978) *Instructor in Surgery* M.D., 1972, Tufts University.
- Mendez-Picon Gerardo (1974), *Assistant Professor of Surgery*, M.D., 1966, University of Santiago.
- Mercuri, Louis G. (1977) *Assistant Professor of Oral Surgery* B.S., 1966, D.D.S., 1970, Georgetown University; M.S., 1975, University of Illinois.
- Merker, Frank F. (1974) *Associate Clinical Professor of Psychiatry* B.A., 1931, Johns Hopkins University; M.D., 1943, Medical College of Virginia.
- Merritt, Wyndell H. (1975) *Assistant Professor of Surgery (Plastic)* B.S., 1962, Davidson College; M.D., 1966, University of North Carolina.
- Merz, Timothy (1975) *Professor of Radiology* B.A., 1951, Ph.D., 1958, Johns Hopkins University.
- Metz, John R. (1973) *Clinical Instructor in Pharmacy* B.S., 1964, Medical College of Virginia.
- Meyers, John F. (1976) *Clinical Instructor in Surgery* B.S., 1964, DePauw University; M.D., 1968, Ohio State University.
- Meyers, Ruth Ann M. (1977) *Assistant Professor of Occupational Therapy* B.S., 1970, Boston University; M.A., 1975, New York University.
- Mickell, John Joseph (1978) *Assistant Professor of Pediatrics* B.S., 1968, Manhattan College; M.D., 1972, Columbia Medical School.
- Middleton, Paul (1962) *Assistant Clinical Professor of Otolaryngology* B.S., 1951, University of Richmond; M.D., 1955, Medical College of Virginia.
- Mikkelson, Thomas C. (1977) *Clinical Instructor in Pharmacy* B.S., 1968, North Dakota State University; M.S., 1971, North Dakota State University.
- Mikulecky, Donald C. (1973) *Professor of Physiology* B.S., 1957, Illinois Institute of Technology; Ph.D., 1963, University of Chicago.
- Millen, Dianne L. (1977) *Assistant Professor of Medical-Surgical Nursing* B.S.N., 1975, University of Pittsburgh; M.N., 1977, University of California, Los Angeles.
- Millen, J. Eugene (1977) *Research Associate Professor of Medicine* B.S., 1954, University of Pittsburgh.
- Miller, Dwight Beverley (1978) *Instructor in Pharmacy* B.S., 1969, Medical College of Virginia of Virginia Commonwealth University.
- Miller, J. Douglas (1975) *Professor of Neurological Surgery, Lind Lawrence Eminent Scholar* FRCS, 1965, M.D., 1970, University of Glasgow; Ph.D., 1974, Institute of Neurological Sciences, Glasgow.
- Miller, Glenn A. (1976) *Assistant Professor of Microbiology* B.S., 1969, Muhlenberg College; Ph.D., 1973, Syracuse University.
- Miller, Grayson B., Jr. (1977) *Assistant Clinical Professor of Medicine* A.B., 1965, Duke University; M.D., 1969, Medical College of Virginia of Virginia Commonwealth University.
- Miller, Mark S. (1975) *Instructor in Biochemistry* B.S., 1971, Pennsylvania State University.
- Miller, Michael J. (1975) *Assistant Clinical Professor of Medicine* B.S., 1965, Pennsylvania State University; M.D., 1970, Medical College of Virginia of Virginia Commonwealth University.
- Miller, W. Gregory, Jr. (1977) *Assistant Professor of Pathology* B.S., 1969, University of Santa Clara; Ph.D., 1973, University of Arizona.
- Miller, William T., Jr. (1978) *Instructor in Occupational Therapy* B.S., 1958, M.S., 1962, Richmond Professional Institute.

Board, Administration, and Faculty

- Miller, William W. (1976) *Professor of Pediatrics* B.A., 1954, Virginia Military Institute; M.D., 1958, University of Pennsylvania.
- Milonas, Demetrios P. (1978) *Clinical Instructor in Community Dentistry* B.S., 1972, Old Dominion University; D.D.S., 1977, Medical College of Virginia of Virginia Commonwealth University.
- Mink, W. Ralph (1975) *Clinical Instructor in Pharmacy* B.S., 1964, University of Tennessee.
- Minnerath, Janet L. (1969) *Associate Professor of Library Science* B.A., 1959, M.L.S., 1963, University of California at Los Angeles.
- Minor, Philip L. (1958) *Clinical Instructor in Obstetrics and Gynecology* M.D., 1947, Medical College of Virginia.
- Minton, Paul D. (1972) *Dean, School of Arts and Sciences and Professor of Biostatistics* B.S., 1941, M.S., 1948, Southern Methodist University; Ph.D., 1957, North Carolina State University.
- Mitchell, George S. Jr. (1972) *Associate Clinical Professor of Family Practice* A.B., 1950, Duke University; M.D., 1954, Medical College of Virginia.
- Mitchell, Robert E. Jr. (1958) *Clinical Associate in Medicine* A.B., 1940, Hampden-Sydney College; M.D., 1950, University of Virginia.
- Modrow, Robert Earl (1975) *Assistant Professor of Health Administration* B.A., 1964, Grove City College; M.A., 1970, University of Denver; Ph.D., 1976, University of Michigan.
- Mohanakumar, Thalachallour (1976) *Associate Professor of Surgery* B.S., 1966, Madras Veterinary College; M.S., 1969, All India Institute of Medical Sciences; Ph.D., 1974, Duke University.
- Mohanty, Laxmi B. (1976) *Instructor in Pathology* M.D., 1965, University of Utkal, India.
- Mohanty, Pramod K. (1973) *Assistant Professor of Medicine* I.S.C., 1958, Ravenshaw College, University of Utkal, India; M.D., 1962, S.C.B. Medical College, University of Utkal, India.
- Mollen, Edward (1979) *Clinical Instructor in Pediatrics* B.S., 1968, College of William and Mary; M.D., 1972, Medical College of Virginia of Virginia Commonwealth University.
- Monacell, John F. (1978) *Assistant Professor of Orthodontics* B.S., 1970, Virginia Polytechnic Institute and State University; D.D.S., 1973, Medical College of Virginia of Virginia Commonwealth University.
- Moncure, Charles W. (1967) *Associate Professor of Academic Pathology* B.A., 1956, University of Virginia; M.D., 1963, Medical College of Virginia.
- Mong, Franz Sheng-Fu (1975) *Assistant Professor of Anatomy* B.S., 1966, National Taiwan University; M.S., 1970, Wayne State University; Ph.D., 1975, University of Michigan.
- Monroe, Willys M. (1976) *Professor of Pathology* A.B., 1937, Wesleyan University; M.D., 1941, Yale University.
- Montague, David Lee (1978) *Instructor in Obstetrics and Gynecology* B.A., 1970, University of Virginia; M.D., 1974, Medical College of Virginia of Virginia Commonwealth University.
- Montague, J. Warren (1956) *Assistant Clinical Professor of Otolaryngology* M.D., 1947, Medical College of Virginia.
- Montesanti, Adrienne (1972) *Instructor in Nurse Anesthesia* R.N., 1964, Sacred Heart Junior College; C.R.N.A., 1968, Medical College of Virginia.
- Montour, James L. (1967) *Associate Professor of Radiology* B.S., 1961, Ph.D., 1966, University of Michigan.
- Moon, Peter C. (1971) *Associate Professor of Restorative Dentistry* B.S., 1964, University of Toledo; M.S., 1967, Ph.D., 1971, University of Virginia.
- Moore, Betty J. (1963) *Associate Professor of Nursing* B.S., 1946, University of North Carolina; M.S., 1961, Virginia Polytechnic Institute.
- Moore, Charles C. (1976) *Clinical Instructor in Obstetrics and Gynecology* B.S., 1967, Hampden-Sydney; M.D., 1971, Medical College of Virginia of Virginia Commonwealth University.
- Moore, Edward W. (1970) *Professor of Medicine and Pathology* B.A., 1952, M.D., 1955, Vanderbilt University.
- Moore, Frederic P. II (1954) *Assistant Clinical Professor of Pediatrics* B.A., 1939, Princeton University; M.D., 1943, Columbia University.
- Moore, George (1977) *Associate Professor of Preventive Medicine* B.A., 1943, Tusculum College; M.D., 1947, Temple University; M.P.H., 1951, University of Michigan.
- Moore, Patricia B. (1979) *Clinical Instructor in Occupational Therapy* B.S., 1976, Virginia Commonwealth University.
- Moore, Robert P. (1957) *Assistant Professor of Medicine* M.D., 1946, Medical College of Virginia.
- Moore, William T. (1956) *Assistant Clinical Professor of Obstetrics and Gynecology* M.D., 1938, University of Virginia.
- Morahan, Page S. (1971) *Associate Professor of Microbiology and Medicine* B.A., 1961, Agnes Scott College; M.A., 1964, Hunter College; Ph.D., 1969, Marquette University.
- Morey, Dennis a. (1958) *Assistant Clinical Professor of Medicine* M.D., 1950, University of Ontario.

Board, Administration, and Faculty

- Morgan, G. Kenneth (1977) *Clinical Instructor in Anesthesiology* B.A., University of Richmond.
- Morgan, Harvey B. (1975) *Assistant Clinical Professor of Pharmacy* B.A., 1952, Hampden-Sydney College; B.S., 1955, Medical College of Virginia.
- Morgan, Walter E., III (1967) *Assistant Clinical Professor of Ophthalmology* B.A., 1957, Wesleyan University; M.D., 1961, Columbia University.
- Morley, John W. (1967) *Assistant Professor of Medicine* M.D., 1951, Edinburgh University, Scotland.
- Morris, Kathleen A. (1977) *Clinical Instructor in Dental Hygiene* B.S., 1977, Medical College of Virginia of Virginia Commonwealth University.
- Mosby, Margaret A. (1977) *Instructor in Library Sciences* B.A., 1968, Caldwell College; M.S., 1973, Catholic University of America.
- Moss, Carl A. (1975) *Assistant Clinical Professor of Periodontics* D.D.S., 1941, McGill University School of Dentistry.
- Moss, Richard L. (1977) *Clinical Instructor in Pharmacy* B.S., 1969, Medical College of Virginia of Virginia Commonwealth University.
- Mostiler, Wayne C. (1978) *Clinical Instructor in Community Dentistry* B.S., 1963, Norfolk College; D.D.S., 1966, Medical College of Virginia.
- Mourino, Arthur P. (1974) *Assistant Professor and Acting Chairman, Department of Pedodontics* B.S., 1965, Georgetown University; M.S., 1967, Hofstra University; D.D.S., 1972, Georgetown Dental School; M.S.D., 1974, Indiana Dental School.
- Mozes, Ruth (1978) *Assistant Professor of Dental Hygiene* A.S., 1972, University of Vermont; B.S., 1976, M.S., 1978, Columbia University.
- Mueller, Dawn G. (1977) *Assistant Professor of Pediatrics* B.A., 1968, Susquehanna University; M.D., 1972, Medical College of Virginia of Virginia Commonwealth University.
- Muha, Kenneth M. (1975) *Clinical Instructor in Pharmacy* B.S., 1967, University of Georgia.
- Mullaney, John (1969) *Associate Professor of Psychiatry* B.A., 1952, M.D., 1956, Columbia University.
- Mullen, Joseph T. (1974) *Associate Clinical Professor of Surgery* A.B., 1949, Carroll College; M.S., 1951, Boston College; M.D., 1955, Boston University.
- Mullinax, P. F. (1963) *Professor of Medicine* B.A., 1951, Duke University; M.D., 1955, Medical College of Virginia.
- Mullins, Herman L. (1969) *Associate Professor of Health Administration* B.G.E., 1960, University of Nebraska; M.H.A., 1965, Medical College of Virginia.
- Munjias, Barbara A. (1972) *Associate Professor of Psychiatric Nursing* B.S., 1959, M.S., 1962, Ohio State University; M.A., 1970, Ph.D., 1972, University of Pennsylvania.
- Munson, Albert E. (1970) *Associate Professor of Pharmacology* B.S., 1961, M.S., 1968, State University of New York at Buffalo; Ph.D., 1970, Medical College of Virginia of Virginia Commonwealth University.
- Munson, Paul J. (1973) *Associate Professor of Educational Planning and Development* B.A., 1965, Gordon College; M.Ed., 1968, Salem State College; Ed.D., 1970, University of Virginia.
- Munton, Mary T. (1972) *Assistant Professor of Nursing* R.N., 1953, Bishop de Goesbriand School of Nursing; B.S., 1968, Russell Sage College; M.S., 1972, Boston University.
- Muren, O. (1960) *Professor of Medicine* M.D., 1945, Medical School of Istanbul, Turkey.
- Murray, Byron K. (1975) *Associate Professor of Microbiology* B.S., 1966, M.S., 1969, Ph.D., 1971, Brigham Young University.
- Murray, Philip F. (1964) *Lecturer in Dermatology* B.A., 1944, M.D., 1946, University of Virginia.
- Murray, William E., Jr. (1977) *Clinical Instructor in Physical Therapy* B.S., 1947, Virginia Union University.
- Murrell, Thomas W., Jr. (1954) *Clinical Professor of Dermatology* M.D., 1940, University of Virginia.
- Myer, Edwin C. (1973), *Associate Professor of Pediatrics* M.B.B.Ch., 1956, University of Witwatersrand.
- Myers, Charles E. (1971) *Assistant Professor of Pharmacy* B.S., 1967, M.S., 1969, University of North Carolina.
- Myles, John T. (1974) *Associate Clinical Professor of Radiology* A.B., 1952, B.S., 1953, West Virginia University; M.D., 1955, Medical College of Virginia.
- Nachman, Herman M. (1967) *Assistant Clinical Professor of Surgery* B.S., 1942, M.D., 1945, Medical College of Virginia.
- Nakoneczna, Irene (1963) *Associate Professor of Pathology* M.D., 1949, Albert-Ludwigs University, Germany.
- Nance, Walter E. (1975) *Professor of Human Genetics, Medicine, Pediatrics, and Chairman, Department of Human Genetics* B.S., 1954, University of the South; M.D., 1958, Harvard Medical School; Ph.D., 1968, University of Wisconsin.
- Narasimhachari, Nedathur (1978) *Professor of Psychiatry and Pharmacology* B.Sc. Hons., 1946, M.Sc., 1947, Andhra University; Ph.D., 1950, Delhi University.
- Natvig, Ralph A. (1964) *Associate Clinical Professor of Surgery* B.S., 1945, Rogalond Gymnasium, Byrre, Norway; M.D., 1951, University of Bergen, Norway.

Board, Administration, and Faculty

- Neal, M. Pinson, Jr. (1963) *Professor of Radiology* A.B., 1949, B.S., 1951, University of Missouri; M.D., 1953, University of Tennessee.
- Necstasy, Bobby W. (1977) *Clinical Instructor in Pharmacy* B.S., 1973, Medical College of Virginia of Virginia Commonwealth University.
- Neifeld, James P. (1978) *Assistant Professor of Surgery* B.S., 1968, Lafayette College; M.D., 1972, Medical College of Virginia of Virginia Commonwealth University.
- Nelson, Craig E. (1975) *Assistant Professor of Occupational Therapy* B.S., 1969, University of Minnesota.
- Nelson, Bobby, W. (1973) *Clinical Instructor in Psychiatry* M.D., 1967, Medical College of Virginia.
- Nelson, Kinloch (1952) *Dean Emeritus, School of Medicine, Professor of Medicine, and Associate Chief of Staff for Education, McGuire Veterans Administration Hospital* B.A., 1923, M.D., 1927, University of Virginia.
- Nemuth, Harold I. (1970) *Clinical Professor of Preventive Medicine* B.A., 1934, Columbia University; M.D., 1939, Medical College of Virginia.
- Nemuth, Paula B. (1977) *Clinical Instructor in Psychiatry* B.A., 1969, Tulane University; M.S., 1976, Virginia Commonwealth University.
- Nevin, James E., III (1973) *Assistant Clinical Professor of Surgery* A.B., 1953, Bowdoin College; M.D., 1957, Tufts University.
- Newman, Eugene M. (1965) *Clinical Instructor in Medicine* B.S., 1956, University of Richmond; M.D., 1960, Medical College of Virginia.
- Newsome, Heber H. (1970) *Professor and Vice-Chairman, Department of Surgery* B.S., 1958, Wake Forest College; M.S., M.D., 1962, Tulane University.
- Newton, Roberta A. (1973) *Assistant Professor of Physical Therapy* B.S., 1969, Mary Washington College; Ph.D., 1973, Medical College of Virginia of Virginia Commonwealth University.
- Nisman, Richard (1977) *Instructor in Medicine* B.A., 1968, Brooklyn College; M.D., 1972, Medical College of Virginia of Virginia Commonwealth University.
- Nolin, Janet M. (1977) *Instructor in Physiology* B.S., 1951, College of St. Rose.
- Nooney, Thomas W., Jr. (1965) *Professor of Ophthalmology and Assistant Professor of Radiology* B.A., 1942, Trinity College; B.S., 1948, O.D., 1949, Los Angeles College of Ophthalmology; M.S., 1961, University of Rochester; Ph.D., 1970, Virginia Commonwealth University.
- Norfleet, Benjamin Elliott (1975) *Assistant Clinical Professor of Family Practice* B.S., 1953, University of Richmond; M.D., 1957, Medical College of Virginia.
- Northington, Clarence M. (1977) *Clinical Instructor in Pharmacy* B.S., 1973, Medical College of Virginia of Virginia Commonwealth University.
- Norville, Jerry L. (1972) *Professor of Health Administration and Director, Continuing Education* B.A., 1961, University of Maryland; M.S., 1967, University of Colorado; M.B.A., 1972, Midwestern University.
- Nottingham, Maurice, Jr. (1967) *Clinical Instructor in Medicine* B.S., 1956, Hampden-Sydney College; M.D., 1960, Medical College of Virginia.
- Nuara, Joseph C. (1977) *Assistant Clinical Professor of Medicine* B.S., 1965, University of Richmond; M.D., 1969, Medical College of Virginia of Virginia Commonwealth University.
- Nunez, Santiago (1970) *Clinical Instructor in Psychiatry* B.A., B.S., 1948, Instituto de La Vibora, Havana; M.D., 1956, University of Havana.
- Oates, James F., III (1962) *Associate Clinical Professor of Surgery* A.B., 1951, Princeton University; M.D., 1955, Cornell University.
- O'Bannon, John N., III (1977) *Assistant Professor of Neurology* B.S., 1969, University of Richmond; M.D., 1973, Medical College of Virginia of Virginia Commonwealth University.
- O'Brien, John P. (1976) *Clinical Professor of Medicine* B.S., 1957, University of Alabama; M.D., 1961, New York Medical College.
- Ochs, Alfred L. (1978) *Assistant Professor of Neurology* B.S., 1963, University of Maryland; Ph.D., 1969, Washington University.
- Odom, Donna C. (1964) *Assistant Professor of Medical Technology* B.S., 1958, Madison College; M.T. (ASCP), 1959, Medical College of Virginia.
- Odom, John G., Jr. (1975) *Assistant Professor of General and Preventive Dentistry* A.B., 1963, Lenoir Rhyne College; M.P.A., 1964, C.A.S., 1970, Appalachian State University; Ph.D., 1975, University of Kentucky.
- Oglesby, Forrest Elliot, Sr. (1975) *Assistant Clinical Professor of Family Practice* A.B., 1936, Emory and Henry College; M.D., 1940, Medical College of Virginia.
- Oken, Donald E. (1975) *Professor of Medicine, Chairman of Renal Division* B.S., 1951, Columbia University; M.D., 1954, Columbia University, College of Physicians and Surgeons.
- O'Keefe, Edward M. (1976) *Assistant Clinical Professor of Endodontics* D.D.S., 1971, Medical College of Virginia of Virginia Commonwealth University.
- Olgas, Marya (1977) *Associate Professor and Chairman, Department of Medical-Surgical Nursing* B.S.N., 1957, Western Reserve; M.S.N., 1962, Boston University; Ph.D., 1973, New York University.

Board, Administration, and Faculty

- Olshansky, Kenneth (1975) *Assistant Professor of Surgery* B.S., 1964, College of William and Mary; M.D., 1968, Medical College of Virginia of Virginia Commonwealth University.
- O'Neal, Charles H. (1968) *Associate Professor of Biophysics* B.S., 1957, Georgia Institute of Technology; Ph.D., 1963, Emory University.
- Oppenheimer, William M. (1963) *Clinical Instructor in Obstetrics and Gynecology* B.S., 1953, Hampden-Sydney College; M.D., 1957, University of Virginia.
- Ormes, Walter M., Jr. (1969) *Associate Professor of Periodontics* B.S., 1939, D.D.S., 1947, Medical College of Virginia.
- Ortiz, Eduardo, Jr. (1973) *Associate Clinical Professor of Restorative Dentistry* B.S., 1943, Mount St. Mary's College; D.D.S., 1951, University of Maryland.
- Osorio, Lory P. (1978) *Assistant Professor of Occupational Therapy* B.S., 1969, Eastern Michigan University; M.P.H., 1975, University of Michigan.
- Overton, Eugene W. (1976) *Associate Clinical Professor of Family Practice* B.A., 1965, Yale University; B.D., 1968, Colgate-Rochester Divinity School; M.D., 1971, University of Virginia.
- Overton, Thomas P. (1956) *Assistant Clinical Professor of Pediatrics* B.S., 1948, Hampden-Sydney College; M.D., 1952, Medical College of Virginia.
- Owen, Duncan S., Jr. (1966) *Professor of Medicine* B.S., 1957, M.D., 1960, University of North Carolina.
- Owen, John Thomas (1978) *Assistant Professor of Family Practice* B.S., 1962, University of Richmond; M.D., 1972, Medical College of Virginia of Virginia Commonwealth University.
- Owens, Kenneth (1975) *Associate Professor of Biophysics* B.S., 1957, Liverpool University; M.S., 1959, Manchester University; Ph.D., 1964, London University.
- Owens, Maurice E., Jr. (1954) *Associate Clinical Professor of Medicine* B.S., 1935, University of Richmond; M.D., 1939, Medical College of Virginia.
- Owers, Noel O. (1969) *Associate Professor of Anatomy* B.S., 1948, Ph.D. 1956, University of Nagpur.
- Owby, Ralph (1963) *Professor of Pediatrics* B.S., 1946, Texas Christian University; M.D., 1949, University of Oklahoma.
- Oxley, David W. (1977) *Lecturer in Legal Medicine* A.B., 1961, Drake University; M.D., 1965, George Washington School of Medicine.
- Packer, Bernard D. (1970) *Assistant Clinical Professor of Orthopedic Surgery* B.S., M.D., 1936, Marquette University.
- Padgett, Graham D., Jr. (1978) *Clinical Instructor in Pharmacy* B.A., 1967, St. Andrews Presbyterian College.
- Page, Dennis G. (1973) *Assistant Professor of Oral Pathology* A.B., 1963, Westminster College; D.D.S., 1967, University of Illinois; M.S., 1973, Loyola University.
- Page, Rosewell, III (1977) *Lecturer in Legal Medicine* A.B., 1962, Washington and Lee University; LL.B., 1968, University of Virginia.
- Painter, James Randolph (1973) *Assistant Clinical Professor of Pharmacy* B.S., 1971, Medical College of Virginia of Virginia Commonwealth University.
- Pakur, Alice S. (1970) *Assistant Professor of Anatomy* B.S., 1963, Ohio University; M.S., 1965, Ph.D., 1968, University of Michigan.
- Palcans, Kent G. (1973) *Associate Professor and Chairman of Department of Periodontics* B.S., 1964, D.D.S., 1968, Ohio State University; M.S.D., 1973, University of Washington.
- Palham, Joseph W., Sr. (1977) *Clinical Instructor in Pharmacy* B.S., 1963, Florida A. and M. University.
- Palmore, Douglas G. (1968) *Assistant Professor of Medical Education* B.A., 1957, University of Richmond; M.Ed., 1965, College of William and Mary.
- Pancoast, James W. (1965) *Associate Clinical Professor of Surgery* B.S., 1959, M.D., 1960, Medical College of Virginia.
- Papadopoulos, Nicholas M. (1964) *Visiting Professor of Neurology* M.S., 1953, Ph.D., 1956, George Washington University.
- Parham, Clara Chandler (1968) *Assistant Professor of Psychiatry (Social Work)* B.S., 1961, Mary Washington College; M.S., 1966, Richmond Professional Institute.
- Parham, Iris A. (1977) *Assistant Professor and Director, Program in Gerontology*; B.A., 1970, University of Texas; M.A., 1973, West Virginia University; Ph.D., 1976, University of Southern California.
- Park, Herbert W., III (1960) *Clinical Professor of Rehabilitation Medicine* B.S., 1944, University of North Carolina; M.D., 1945, Duke University.
- Parker, Clifton L. (1973) *Clinical Instructor in Medicine* B.S., 1962, University of Richmond; M.D., 1965, Medical College of Virginia.
- Parker, Kelvin B., Jr. (1977) *Clinical Instructor in Pharmacy* B.S., 1973, Medical College of Virginia of Virginia Commonwealth University.
- Parker, Virginia E. (1977) *Assistant Instructor in Center for Community Health* B.S., 1972, FNP, 1975, M.S., 1977, Medical College of Virginia of Virginia Commonwealth University.
- Parrish, Roland Craig (1978) *Instructor in Pharmacy* B.S., 1975, Medical College of Virginia of Virginia Commonwealth University.

Board, Administration, and Faculty

- Passarelli, Carole M. (1977) *Instructor in Maternal-Child Nursing* B.S.N., 1963, Simmons College; M.S.N., 1977, University of Connecticut; P.N.P. Certificate, 1970, Yale University.
- Patrick, Graham A. (1973) *Assistant Professor of Pharmacology* B.S., 1969, Ph.D., 1973, University of North Carolina.
- Patridge, John R. (1975) *Clinical Instructor in Obstetrics and Gynecology* B.A., 1968, Yale University; M.D., 1972, University of North Carolina School of Medicine.
- Patterson, John L., Jr. (1952) *Professor of Medicine* A.B., 1935, Princeton University; M.D., 1939, Medical College of Virginia; M.S., 1943, University of Virginia.
- Paul, David (1978) *Clinical Instructor in Community Dentistry* B.S., 1970, Hampden-Sydney College; D.D.S., 1975, Medical College of Virginia of Virginia Commonwealth University.
- Payton, Otto D. (1971) *Professor of Physical Therapy* B.S., 1956, University of Kansas; M.S. 1964, Indiana University; Ph.D., 1971, University of Maryland.
- Peace, Karl E. (1977) *Assistant Clinical Professor of Biostatistics* B.S., 1963, Georgia Southern College; M.S., 1964, Clemson University; Ph.D., 1976, Medical College of Virginia of Virginia Commonwealth University.
- Pearce, Leroy S. (1960) *Associate Clinical Professor of Pathology* B.A., 1934, M.S., 1934, University of Mississippi; M.D., 1938, Vanderbilt University.
- Pears, Michael A. (1967) *Associate Professor of Medicine* M.B.B.S., 1951, M.D., 1952, St. Mary's Hospital Medical School.
- Peed, Steven F. (1975) *Assistant Professor of Psychiatry* B.A., 1971, Furman University; M.S., 1972, Ph.D., 1975, University of Georgia.
- Peeples, Edward H., Jr. (1968) *Associate Professor of Preventive Medicine* B.S., 1957, Richmond Professional Institute; M.A., 1963, University of Pennsylvania; Ph.D., 1972, University of Kentucky.
- Peery, James M. (1978) *Clinical Instructor in Community Dentistry* B.A., 1970, Hampden-Sydney College; D.D.S., 1975, Medical College of Virginia of Virginia Commonwealth University.
- Pellock, John Michael (1978) *Assistant Professor of Neurology* B.A., 1965, John Hopkins University; M.S., 1967, Fairleigh Dickinson University; M.D., 1971, St. Louis University.
- Peple, Loundes, Jr. (1958) *Clinical Associate in Surgery* M.D., 1941, Medical College of Virginia.
- Pepple, Allen (1954) *Clinical Professor of Dermatology* M.D., 1933, Washington University.
- Perkinson, W. Baxter, Jr. (1971) *Assistant Clinical Professor of Restorative Dentistry* D.D.S., 1970, Medical College of Virginia of Virginia Commonwealth University.
- Personius, Walter J. (1977) *Assistant Professor of Physical Therapy* B.S., 1967, Ithaca College; M.A., 1977, University of Iowa.
- Peter, Barbara D. (1974) *Assistant Professor of Nursing* B.S., 1970, The Catholic University of America; M.S., 1972, Boston University.
- Peters, Philip B. (1954) *Clinical Professor of Oral Surgery* B.A., 1950, College of William and Mary; D.D.S., 1953, Medical College of Virginia.
- Peterson, Darrell Lynn (1978) *Assistant Professor of Biochemistry* B.S., 1966, Ph.D., 1970, University of Notre Dame.
- Petres, Robert E. (1971) *Associate Professor of Obstetrics and Gynecology* B.S., 1961, M.D., 1965, West Virginia University.
- Petty, Carroll T. (1975) *Assistant Clinical Professor of Surgery* B.S., 1962, Lynchburg College; M.D., 1966, Medical College of Virginia.
- Phibbs, Paul V., Jr. (1970) *Associate Professor of Microbiology* B.A., 1964, Bridgewater College; M.S., 1966, Ph.D., 1969, University of Georgia.
- Pickard, Robert G. (1978) *Clinical Instructor in Community Dentistry* B.S., 1939, University of Arkansas; D.D.S., 1942, Indiana University.
- Pierpaoli, Paul G. (1976) *Associate Professor of Pharmacy and Director of Pharmaceutical Services, MCVH* B.S., 1960, University of Rhode Island; M.S., 1962, University of Michigan.
- Pilcher, Robert M., Jr. (1965) *Clinical Instructor in Orthopedic Surgery* B.S., 1956, Hampden-Sydney College; M.D., Medical College of Virginia.
- Pinkerton, Herman H., Jr. (1967) *Assistant Clinical Professor of Pediatrics* B.S., 1947, Tennessee Polytechnic Institute; M.D., 1951, Johns Hopkins University.
- Pinto, Carlos (1965) *Assistant Clinical Professor of Pathology* B.S., 1946, Colegio Ypiranga, Brazil; M.D., 1954, Faculdade Eluminense de Medicina, Rio de Janeiro.
- Pittman, Roland N. (1974) *Associate Professor of Physiology* S.B., 1966, Massachusetts Institute of Technology; M.A., 1968, Ph.D., 1971, State University of New York.
- Poland, James L. (1967) *Assistant Professor of Physiology* B.S., 1962, Waynesburg College; M.S., 1964, Ph.D., 1967, West Virginia University.

Board, Administration, and Faculty

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- Pollack, David (1958) *Clinical Associate in Medicine* A.B., 1931, Cornell University; M.D., 1935, Medical College of Virginia.
- Pollock, Charles A., Jr. (1965) *Clinical Instructor in Medicine* B.A., 1962, Pennsylvania State University; M.D., 1960, University of Virginia.
- Porter, Elizabeth E. (1961) *Instructor in Ophthalmology* D.B.O., 1954, Oxford Eye Hospital, England.
- Poulos, Nicholas G. (1962) *Assistant Clinical Professor of Surgery* B.A., 1951, University of Richmond; M.D., 1955, Medical College of Virginia.
- Povlishock, John T. (1973) *Associate Professor of Anatomy* B.S., 1969, Loyola College; M.S., 1971, Ph.D., 1973, Saint Louis University.
- Powell, Judith N. (1977) *Associate Professor of Occupational Therapy* B.S., 1955, Cornell University; Diploma, 1957, Tufts Boston School of Occupational Therapy; M.S., 1963, Hunter College, CUNY; Ph.D., 1974, University of Minnesota.
- Powers, Mary Catherine (1979) *Instructor in Nursing* B.A., 1949, College of St. Elizabeth; M.S., 1971, Virginia Commonwealth University.
- Pratt, Glenn R. (1966) *Associate Professor of Ethics* A.B., 1946, Union College; M.Div., 1949, Th.M., 1950, Princeton Theological Seminary; S.T.D., 1958, Temple University.
- Prentice, Katherine A. (1969) *Assistant Professor of Medical Technology* B.S., 1963, M.T. (ASCP), 1963, Medical College of Virginia.
- Presswalla, Faruk (1977) *Lecturer in Legal Medicine* M.B.B.S., 1965, LL.B., 1969, University of Bombay.
- Prest, Alan P. L., Jr. (1970) *Professor and Chairman, Program of Patient Counseling* B.S. 1951, Lehigh University; M.Div., 1954, Episcopal Theological School.
- Preston, John Dennis (1978) *Assistant Professor of Pharmacy and Pharmaceutics* B.S., 1971, Fresno City College; Pharm. D., 1974, University of the Pacific.
- Price, Madison R. (1970) *Associate Clinical Professor of Pediatric Dentistry* B.A., 1955, University of Richmond; D.D.S., 1959, Medical College of Virginia.
- Price, Robert L. (1975) *Clinical Instructor in Preventive Medicine* M.D., 1946, University of Virginia; M.P.H. 1954, Johns Hopkins University.
- Price, Steven (1966) *Professor of Physiology* A.B., 1958, Adelphi College; M.A., 1960, Ph.D., 1961, Princeton University.
- Prince, Paul (1976) *Assistant Clinical Professor of Pediatrics* B.A., 1958, M.S., 1960, University of Tennessee; Ph.D., 1968, University of South Carolina.
- Pritchard, George E. (1965) *Clinical Instructor in Medicine* B.S., 1956, University of Richmond; M.D., 1960, Medical College of Virginia.
- Proctor, Jack D. (1967) *Associate Professor of Clinical Pharmacology* B.S., 1952, M.D., 1962, Medical College of Virginia.
- Prybil, Lawrence D. (1970) *Professor and Chairman, Department of Health Administration* B.A., 1962, M.A., 1964, Ph.D., 1970, University of Iowa.
- Prysak, Michael F. (1977) *Clinical Instructor in Obstetrics and Gynecology* B.S., 1966, University of Detroit; Ph.D., 1969, Vanderbilt University; M.D., 1973, University of Michigan.
- Puckett, Andrew C., Jr., (1977) *Instructor in Patient Counseling* B.A., 1959, Vanderbilt University; B.D., 1963, Southeastern Baptist Theological Seminary; Th.M., 1972, Duke University Divinity School.
- Quattropiani, Steven L. (1975) *Associate Professor of Anatomy* B.S., 1965, Bates College; M.S., 1969, Ph.D., 1970, University of Massachusetts.
- Quinn, John C. (1977) *Assistant Professor of Medicine* B.E.E., 1968, University of Virginia; M.D., 1972, Medical College of Virginia of Virginia Commonwealth University.
- Quinnell, Robert Kay (1972) *Associate Clinical Professor of Family Practice* B.S., 1944, University of North Carolina; M.D., 1946, Cornell University; M.P.H., 1955, Harvard University.
- Qureshi, Ghulam D. (1974) *Assistant Professor of Medicine and Pathology* B.Sc., 1959, University of Punjab, West Pakistan; M.B., B.S., 1964, King Edward Medical College, West Pakistan.
- Rabhan, Nathan H. (1978) *Instructor in Obstetrics and Gynecology* B.S., 1970, University of Virginia; M.D., 1974, Medical College of Virginia of Virginia Commonwealth University.
- Rabhan, Walter (1974) *Clinical Instructor in Surgery* B.S., 1960, University of Florida; M.D., 1964, Medical College of Georgia.
- Rafii, Amir (1964) *Professor of Anesthesiology* M.D., 1953, University of Tehran, Iran.
- Rager, Patricia A. (1978) *Instructor in Maternal-Child Nursing* B.S.N., 1971, Medical College of Virginia of Virginia Commonwealth University.
- Rah, Kang H. (1976) *Assistant Professor of Anesthesiology* M.D., 1968, Chonnam University Medical School, Korea.
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- Rao, Gopal U.V. (1978) *Professor of Radiology and Chairman, Division of Radiation Physics B.S.*, 1949, Khallikote College; M.S., 1954, Ravenshaw College; D.Sc., 1966, Johns Hopkins University.
- Rao, Kishore G. (1975) *Associate Professor of Radiology M.B.B.S. - J.I.P.H.E.R.*, 1968.
- Raper, A. Jarrell (1966) *Professor of Medicine. M.D.*, 1959, Medical College of Virginia.
- Rawls, John A. (1965) *Assistant Clinical Professor of Surgery B.S.*, 1955, Hampden-Sydney College; M.D., 1960, Medical College of Virginia.
- Ray, Linda (1977) *Clinical Instructor in Community Dentistry B.S.*, 1969, D.D.S., 1977, Medical College of Virginia of Virginia Commonwealth University.
- Ready, Diane C. (1978) *Clinical Instructor in Community Dentistry B.S.*, 1965, D.D.S., 1977, Howard University.
- Reams, Willie M., Jr. (1970) *Clinical Research Assistant in Dermatology B.S.*, 1951, University of Richmond; Ph.D., 1956, Johns Hopkins University.
- Reavis, Hugh L. (1977) *Clinical Instructor in Pharmacy B.S.*, 1971, Medical College of Virginia of Virginia Commonwealth University.
- Redwine, Fay D. (1977) *Assistant Professor of Obstetrics and Gynecology B.A.*, 1968, George Washington University; M.S., 1971, M.D., 1972, Medical College of Virginia of Virginia Commonwealth University.
- Redwine, William J. (1976) *Clinical Instructor of Restorative Dentistry B.S.*, 1969, George Washington University; D.D.S., 1973, Medical College of Virginia of Virginia Commonwealth University.
- Reed, Wellford C. (1957) *Assistant Clinical Professor of Medicine B.S.*, 1931, Hampden-Sydney College; M.D., 1935, Medical College of Virginia.
- Regan, William W. (1958) *Clinical Associate in Medicine M.D.*, 1947, Washington University.
- Regelson, William (1967) *Professor of Medical Oncology and Microbiology A.B.*, 1948, University of North Carolina; M.D., 1952, New York State University College of Medicine, Downstate.
- Regen, Margot A. (1978) *Instructor in Nursing B.S.N.*, 1959, Duke University.
- Reid, Elizabeth Anne (1978) *Clinical Associate in Nursing B.S.*, 1962, St. Joseph College; M.S., 1970, University of Maryland.
- Reid, Norma S. (1968) *Assistant Professor of Psychiatry (Social Work) B.A.*, 1961, M.S., 1964, University of North Carolina.
- Reid, William F. (1966) *Associate Clinical Professor of Surgery B.S.*, 1946, Virginia Union University; M.D., 1948, Howard University.
- Reinders, Thomas P. (1974) *Associate Professor of Pharmacy B.S.*, 1970, Pharm. D., 1972, University of Cincinnati.
- Rennie, Laurie E. (1969) *Clinical Professor of Neurology B.S.*, 1950, Virginia Polytechnic Institute; M.D., 1954, Medical College of Virginia.
- Repp, Eleanor C. (1975) *Professor of Nursing and Assistant Dean of the Graduate Program, School of Nursing B.S.N.*, 1951, Union University School of Nursing; M.S.N., 1961, University of Texas; Ed.D., 1970, Columbia University.
- Resnick, Robert J. (1968) *Associate Professor of Psychiatry B.A.*, 1962, Syracuse University; M.A., 1963, Temple University; Ph.D., 1968, University of Tennessee.
- Revere, James H., Jr. (1968) *Assistant Professor of Removable Prosthodontics and Associate Dean for Clinical Affairs, School of Dentistry B.A.*, 1961, University of Richmond; D.D.S., 1965, Medical College of Virginia.
- Rhoads, David (1976) *Clinical Instructor in Pathology B.S.*, 1960, Haverford College; M.A., 1962, Ph.D., 1969, Brandeis University.
- Rhodes, Robert M. (1977) *Clinical Instructor in Pharmacy B.S.*, 1971, Medical College of Virginia of Virginia Commonwealth University.
- Richard, Alfred J. (1958) *Professor of Pharmaceutical Chemistry B.S.*, 1953, M.A., 1955, Lowell Textile Institute; Ph.D., 1958, Clark University.
- Richards, Nelson G. (1973) *Associate Clinical Professor of Neurology B.A.*, 1948, M.D., 1952, University of Virginia.
- Richardson, David W. (1953) *Professor of Medicine and Chairman, Division of Cardiovascular Disease B.S.*, 1947, Davidson College; M.D., 1951, Harvard University.
- Richardson, Vashti J. (1970) *Associate Professor of Community Health Nursing B.S.N.E.*, 1957, Medical College of Virginia; M.P.H., 1969, University of North Carolina.
- Ridgeway, Ellis B. (1972) *Associate Professor of Physiology B.S.*, 1963, Massachusetts Institute of Technology; Ph.D., 1969, University of Oregon.
- Ries, William L. (1976) *Assistant Professor of Periodontics B.A.*, 1965, Alfred University; D.D.S., 1969, State University of New York at Buffalo.
- Riffie, Robert S. (1975) *Clinical Instructor in Pharmacy B.S.*, 1957, West Virginia University.

Board, Administration, and Faculty

- Riggs, Stephen B. (1973) *Clinical Instructor in General and Preventive Dentistry* B.S., 1966, Ohio University; D.D.S., 1970, Ohio State University.
- Riley, Charles R. (1958) *Assistant Clinical Professor of Surgery* B.S., 1939, University of Notre Dame; M.D., 1943, Medical College of Virginia.
- Riley, Harry S. (1974) *Clinical Instructor in Restorative Dentistry* B.S., 1950, College of William and Mary; D.D.S., 1954, University of Pennsylvania.
- Riley, James L. (1978) *Assistant Professor of Orthodontics* B.A., 1970, University of Virginia; D.D.S., 1974, Medical College of Virginia of Virginia Commonwealth University.
- Rittgers, Stanley E. (1978) *Instructor in Surgery* B.S., 1968, State University of New York; M.S., 1975, Ph.D., 1978, Ohio State University.
- Rivadeneria, Colon (1969) *Clinical Instructor in Pediatrics* M.D., 1960, Central University at Quito, Ecuador.
- Robbins, H. Malcolm (1977) *Clinical Instructor in Pharmacy* B.S., 1954, Medical College of Virginia.
- Roberts, Bobbie L. (1969) *Assistant Clinical Professor of Radiology* M.D., 1962, George Washington University.
- Robertson, Floyd A., Jr. (1973) *Assistant Clinical Professor of Pharmacy* B.S., 1943, Medical College of Virginia.
- Robertson, Louise W. (1965) *Associate Professor of Pediatrics* B.S., 1956, Mary Washington College; M.D., 1960, Medical College of Virginia.
- Robertson, Susan C. (1977) *Assistant Professor of Occupational Therapy* B.A., 1969, Pitzer College; M.S., 1977, San Jose State University.
- Robertson, William A. (1972) *Assistant Professor of Surgery* B.S., 1960, Hampden-Sydney College; M.D., 1964, Medical College of Virginia.
- Robertson, William A., Jr. (1968) *Associate Professor of Admissions* B.S., 1953, Randolph-Macon College; M.Ed., 1971, Virginia Commonwealth University.
- Robinson, Fred D. (1972) *Assistant Professor of Cardiovascular Medicine* B.S., 1954, Hampden-Sydney College; M.D., 1958, University of Virginia.
- Robinson, Grover C., III (1977) *Clinical Instructor in Pediatrics* B.S., 1968, Davidson College; M.D., 1972, Medical College of Virginia of Virginia Commonwealth University.
- Rodriguez, Gil (1974) *Assistant Professor of Pediatrics* B.S., 1963, University of Notre Dame; M.D., 1967, Temple University.
- Roehl, Randall A. (1979) *Instructor in Microbiology* B.S., 1972, Rensselaer Polytechnic Institute; Ph.D., 1979, University of Connecticut.
- Rogers, Charles C. (1969) *Associate Clinical Professor of Radiology* B.A., 1956, Maryville College; M.D., 1960, University of Arkansas.
- Rogers, Kenneth S. (1964) *Associate Professor of Biochemistry* B.S.A., 1957, M.S., 1959, Ph.D., 1962, Purdue University.
- Rogers, Lewis T. (1952) *Assistant Clinical Professor of Restorative Dentistry* B.S., 1947, Davidson College; D.D.S., 1951, Medical College of Virginia.
- Rogers, Michael E. (1975) *Assistant Professor of Pharmaceutical Chemistry* A.S., 1965, Columbus Junior College; B.S., 1967, Berry College; Ph.D., 1972, University of Mississippi.
- Rogers, Roney S. (1977) *Clinical Instructor in Pharmacy* B.S., 1968, Medical College of Virginia of Virginia Commonwealth University.
- Roisen, Christa P. (1979) *Assistant Instructor in Medical/Surgical Nursing* B.S., 1972, University of North Carolina.
- Rolfe, Bertha C. (1977) *Instructor in Pharmacy and Pharmaceutics* B.S., 1947, Medical College of Virginia.
- Rollings, Marianne R. (1977) *Clinical Instructor in Pharmacy* B.S., 1963, Medical College of Virginia.
- Romaine, Charles N., IV (1955) *Associate Clinical Professor of Ophthalmology* A.B., 1936, Randolph-Macon College; M.D., 1938, University of Virginia.
- Romaniuk, Jean G. (1978) *Assistant Professor of Gerontology* B.A., 1972, Case Western Reserve University; M.A., 1974, Western Michigan University.
- Romhilt, Donald W. (1977) *Professor of Medicine* A.B., 1958, M.D., 1962, Duke University.
- Rooke, M. Leigh (1962) *Professor of Health Administration* A.B., 1940, M.A., 1949, University of Richmond; Ed.D., 1957, Columbia University.
- Rose, John D. (1977) *Assistant Clinical Professor of Removable Prosthodontics* B.A., 1971, University of Virginia; D.D.S., 1975, Medical College of Virginia of Virginia Commonwealth University.
- Rose, Leslie W., Jr. (1958) *Clinical Associate in Medicine* B.S., 1940, B.S., 1941, University of North Carolina; M.D., 1943, Washington University.
- Rose, Thomas M. (1978) *Assistant Professor of Medical Education and Assistant Dean for Administration and Management, School of Medicine* B.S., 1969, University of Dayton; M.S., 1972, Virginia Commonwealth University.
- Rosecrans, John A. (1967) *Professor of Pharmacology* B.S., 1957, St. John's University;

Board, Administration, and Faculty

- M.S., 1960, Ph.D., 1963, University of Rhode Island.
- Rosenblum, William I. (1969) *Professor of Pathology* B.A., 1957, Swarthmore College; M.D., 1961, New York University.
- Rosenthal, Mitchell (1975) *Assistant Professor of Rehabilitation Medicine* B.A., 1970, Rutgers University; M.A., 1972, Fairleigh Dickinson University; Ph.D., 1975, University of Cincinnati.
- Rosner, Michael (1978) *Assistant Professor of Neurosurgery* B.A., 1969, University of Virginia; M.D., 1972, Medical College of Virginia of Virginia Commonwealth University.
- Rossi, Olivia C. (1978) *Instructor in Medical-Surgical Nursing* B.S., 1970, B.S.N., 1973, University of California; M.S.N., 1978, University of Hawaii.
- Rothberg, Simon (1970) *Professor of Dermatology and Biochemistry* B.S., 1948, Columbia University; M.S., 1956, Ph.D., 1956, Georgetown University.
- Rowe, Douglas S. (1977) *Assistant Clinical Professor of Surgery* B.A., 1963, Virginia Military Institute; M.D., 1967, University of Virginia.
- Royal, Frank S. (1975) *Assistant Clinical Professor of Family Practice* B.S., 1961, Virginia Union University; M.D., 1968, Meharry Medical College.
- Royal, Harry W. (1973) *Clinical Instructor in Obstetrics and Gynecology* B.S., 1957, Virginia Union University; M.D., 1966, Meharry Medical College.
- Royster, Henry P. (1969) *Associate Clinical Professor of Surgery* M.D., 1948, Medical College of Virginia.
- Rubin, Ronald P. (1974) *Professor of Pharmacology* A.B., 1954, Harvard College; Ph.D., 1963, Albert Einstein College.
- Rubis, Earl J. (1975) *Clinical Instructor in Restorative Dentistry* D.D.S., 1970, Medical College of Virginia of Virginia Commonwealth University.
- Ruddy, Shaun Joseph (1974) *Professor and Chairman, Division of Immunology and Connective Tissue Disease* B.A., 1956, Yale College; M.D., 1961, Yale University.
- Ruffolo, John J., Jr. (1976) *Assistant Professor of Biophysics* B.S., 1966, Loyola University; M.S., 1969, Ph.D., 1972, University of Iowa.
- Rusher, William D. (1964) *Assistant Clinical Professor of Ophthalmology* B.S., 1951, University of Richmond; M.D., 1955, Medical College of Virginia.
- Russell, Edward C. (1978) *Assistant Professor of Pediatrics* B.S., 1966, Wake Forest; M.D., 1970, Bowman Gray School of Medicine.
- Russell, Jack B. (1960) *Lecturer in Legal Medicine* B.S., 1947, Randolph-Macon College; J.D., 1949, Washington and Lee University.
- Russell, John A., Jr. (1977) *Clinical Instructor in Psychiatry* B.A., 1968, Georgetown University; M.D., 1973, Medical College of Wisconsin.
- Russi, Simon (1954) *Clinical Professor of Pathology and Clinical Pathology* M.D., 1935, Università Degli Studi, Modena, Italy.
- Russo, Edward, Jr. (1978) *Clinical Instructor in Restorative Dentistry* A.B., 1967, Holy Cross College; D.D.S., 1971, University of Maryland.
- Ruth, Robin (1975) *Assistant Professor of Biophysics* B.S., 1962, University of Oklahoma; Ph.D., 1967, University of Illinois.
- Rutherford, R. Bruce (1978) *Associate Professor of Dentistry and Assistant Dean for Student Affairs, School of Dentistry* D.D.S., 1966, University of Washington; Ph.D., 1975, University of Rochester.
- Rutherford, William B. (1978) *Instructor in Medicine (Cardiology)* B.S., 1969, Hampden-Sydney College; M.D., 1973, Medical College of Virginia of Virginia Commonwealth University.
- Sagar, Kiran (1977) *Assistant Professor of Medicine* M.D., 1966, Medical College, Amritsar, India.
- Sakhadeo, Shrihari (1978) *Assistant Professor of Pediatrics*. Inter Science, 1957, Fergusson College; M.B.B.S., 1961, B.J. Medical College.
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- Salley, John J. (1974) *Associate Vice-President for Research and Graduate Affairs and Professor of Oral Pathology* D.D.S., 1951, Medical College of Virginia; Ph.D., 1954, University of Rochester.
- Salomonsky, Anita B. (1970) *Assistant Professor of Anesthesiology* B.S., 1962, Arlington State College; M.D., 1965, University of Texas.
- Salter, Fred J. (1970) *Associate Professor of Pharmacy* B.S., 1966, Philadelphia College of Pharmacy and Science; Pharm. D., 1967, University of Michigan.
- Salzberg, Arnold M. (1973) *Professor of Surgery and Chairman, Division of Pediatric Surgery* A.B., 1942, University of North Carolina; M.D., 1945, New York Medical College.
- Sanford, Michael S. (1974) *Clinical Instructor in Community Dentistry* D.D.S., 1972, Medical College of Virginia of Virginia Commonwealth University.
- Satterwhite, Patricia (1968) *Instructor in Physical Therapy* B.S., 1965, Medical College of Virginia.

Board, Administration, and Faculty

- Sauer, Ronald L. (1978) *Assistant Professor of Medical Technology* A.A., 1968, American River College; B.A., 1970, California State University; M.A., 1972, University of California.
- Saunders, Jean (1978) *Assistant Professor of Medicine (Educational Planning and Development)* B.S., 1962, University of Illinois; M.A., 1970, Northeastern Illinois University.
- Saunders, John R. (1958) *Clinical Associate in Psychiatry* M.D., 1926, Emory University.
- Savage, Bernard M. (1962) *Assistant Clinical Professor of Radiology* B.S., 1947, University of Richmond; M.D., 1951, Medical College of Virginia.
- Saxton, Dorothy P. (1966) *Assistant Professor of Occupational Therapy* O.T., 1952, University of Wisconsin; Ph.B., 1960, Northwestern University, Chicago; M.A., 1963, Western Michigan University.
- Scala, Robert A. (1978) *Adjunct Associate Professor of Pharmacology* A.B., 1953, Hamilton College; M.S., 1956, Ph.D., 1958, University of Rochester.
- Schatzki, Peter F. (1968) *Professor of Pathology* A.B., 1948, Harvard University; M.D., 1952, Tufts University; Ph.D., 1968, University of Texas.
- Schenkein, Harvey A. (1978) *Assistant Professor of Periodontics and Microbiology* B.S., 1970, D.D.S., 1974, State University of New York.
- Schettini, Alfonso (1977) *Professor of Anesthesiology* M.D., 1950, University of Naples, Italy.
- Schirch, LaVerne G. (1978) *Associate Professor of Biochemistry* B.S., 1958, Bluffton College; Ph.D., 1963, University of Michigan.
- Schmidt, Kurt T. (1972) *Associate Clinical Professor of Psychiatry* M.D., 1946, University of Munich.
- Schneider, Volker (1978) *Assistant Professor of Pathology* M.D., 1969, University of Hamburg.
- Schroeder, James R. (1978) *Assistant Professor of Restorative Dentistry* B.A., 1971, Luther College; D.D.S., 1976, M.S., 1976, Medical College of Virginia of Virginia Commonwealth University.
- Schulman, Abbott J. (1974) *Assistant Clinical Professor of Psychiatry* A.B., 1958, Duke University; M.A., 1960, East Carolina College; Ph.D., 1965, Florida State University.
- Schumann, Morton D. (1959) *Associate Professor of Psychiatry* A.B., 1947, M.S.W., 1951, West Virginia University.
- Schwartz, Allen B. (1974) *Assistant Clinical Professor of Oral Surgery* B.S., 1965, Brooklyn College; D.D.S., 1969, New York University.
- Schwartz, Charles (1974) *Instructor in Medicine* B.A., 1965, University of Michigan; M.D., 1969, Wayne State University.
- Skolnick, Pamela (1976) *Clinical Instructor in Pediatrics* B.A., 1968, Barnard College; M.D., 1972, New York University.
- Scoggins, Robert B. (1969) *Clinical Professor of Dermatology* B.A., 1953, M.D., 1958, Emory University.
- Scott, Frank (1971) *Lecturer in Hospital and Health Administration* B.S., 1941, Morehead College; M.S., 1950, Columbia University.
- Scott, R. Carter, III (1976) *Lecturer in Legal Medicine* M.S., 1962, Oklahoma State University; B.S., 1963, University of Virginia; L.L.B., 1967, T. C. Williams Law School.
- Scott, Robert B. (1965) *Associate Dean for Clinical Activities, School of Medicine and Professor of Medicine, Pathology, and Biochemistry* B.S., 1954, University of Richmond; M.D., 1958, Medical College of Virginia.
- Seaton, Jennie D. (1974) *Associate Professor of Allied Health Education* M.T., 1950, St. Joseph Hospital School of Medical Technology; B.A., 1960, University of Tennessee; M.S., 1963, University of Minnesota; Ed.D., 1974, University of Kentucky.
- Sebben, James A. (1976) *Clinical Instructor in Psychiatry* B.A., 1962, St. John's College; M.S., 1969, University of Southern California; Ed.D., 1974, Boston University.
- See, Covie E. (1977) *Clinical Instructor in Community Dentistry* B.A., 1954, B.S., 1954, Shepherd College; D.D.S., 1960, Medical College of Virginia.
- Segreti, Anthony C. (1977) *Instructor in Biostatistics* B.S., 1973, M.S., 1975, University of Pittsburgh; Ph.D., 1977, Medical College of Virginia of Virginia Commonwealth University.
- Seibel, Hugo R. (1967) *Professor of Anatomy* B.S., 1960, Brooklyn College; Ph.D., 1967, University of Rochester.
- Seif, Sue S. (1978) *Assistant Professor of Visual Education* B.A., 1968, Goucher College; M.A., 1977, Johns Hopkins.
- Seitz, Donald G. (1975) *Clinical Instructor in Orthopedic Surgery* B.A., 1962, St. John's University; M.D., 1967, Medical College of Wisconsin.
- Selby, Gary (1977) *Assistant Professor of Community Dentistry and Center for Community Health* B.A., 1968, University of South Florida; D.D.S., 1972, Medical College of Virginia of Virginia Commonwealth University.
- Selhorst, John B. (1975) *Associate Professor of Neurology and Ophthalmology* B.S., 1964, Spring Hill College; M.D., 1967, St. Louis University School of Medicine.
- Selph, James A., Jr. (1963) *Clinical Instructor in Surgery (Urology)* B.S., 1953, M.D., 1957, Medical College of Virginia.

Board, Administration, and Faculty

- Shadomy, H. Jean (1965) *Professor of Microbiology* B.A. 1956, M.A., 1958, Ph.D., 1963, University of California, Los Angeles.
- Shadomy, Smith (1965) *Professor of Medicine and Microbiology* B.A., 1955, Ph.D., 1963, University of California, Los Angeles.
- Shaffer, Melvin C. (1962) *Professor of Biomedical Communications*.
- Shaia, Fred T. (1973) *Assistant Clinical Professor of Otolaryngology, Rhinology, and Laryngology* B.S., 1961, University of Notre Dame; M.D., 1965, Medical College of Virginia.
- Shalenko, Paul C. (1978) *Assistant Professor of Nurse Anesthesia* B.S.N., 1968, University of Pennsylvania; M.M.S., 1973, Emory University.
- Shanholtz, Mack I. (1954) *Lecturer in Preventive Medicine* B.S., 1930, M.D., 1934, University of Virginia; M.P.H., 1938, Johns Hopkins University.
- Sharp, David E. (1978) *Assistant Professor of Pathology* A.B., 1967, M.D., 1973, Ph.D., 1975, University of North Carolina.
- Sharp, Nicholas A. (1971) *Assistant Professor of English and Coordinator, Non-Traditional Studies, Office of continuing Education* B.A., 1966, University of Kansas; M.A., 1968, Ph.D., 1971, Ohio State University.
- Sharpe, Alton R. (1951) *Professor and Chairman, Department of Nuclear Medicine, and Professor of Medicine* B.S., 1949, University of Richmond; M.D., 1954, Medical College of Virginia.
- Shaw, J. Michael (1978) *Assistant Professor of Biochemistry* B.S., 1966, Lamar College; M.S., 1970, Texas A. and M. University; Ph.D., 1975, Temple University.
- Shelton, Keith R. (1970) *Associate Professor of Biochemistry* B.A., 1963, University of Virginia; Ph.D., 1968, University of Illinois.
- Shenoy, Ramakrishnan S. (1975) *Assistant Professor of Psychiatry* M.B., B.S., 1963, Calicut Medical College, India; M.D., 1971, Triundrum Medical College.
- Shepard, Felix E. (1965) *Associate Professor of Restorative Dentistry* B.S., 1955, University of Richmond; D.D.S., 1957, Medical College of Virginia.
- Shepherd, Margaret Johnson (1978) *Instructor in Occupational Therapy* A.A., 1949, College of William and Mary; B.S., 1953, Richmond Professional Institute.
- Sheppard, L. Benjamin (1954) *Associate Clinical Professor of Ophthalmology and Anatomy* M.D., 1930, University of Virginia.
- Shiel, Fergus O. (1968) *Professor of Academic Pathology* M.B., B.Ch., 1949, B.S., 1951, National University, Ireland; M.R.C.Path., 1963, London.
- Shield, James A., Jr. (1970) *Assistant Clinical Professor of Psychiatry* B.A., 1960, Princeton University; M.D., 1964, University of Virginia.
- Shipley, Patricia L. (1978) *Assistant Professor of Microbiology* B.A., 1968, Rutgers State University; Ph.D., 1975, University of Michigan.
- Shipman, Barry (1973) *Associate Professor of Oral Surgery* B.S., 1964, Hobart College; D.M.D., 1969, Tufts Dental School.
- Shirazi, Khalil K. (1977) *Assistant Professor of Radiology* M.D., University of Meshed Medical School, Iran.
- Shirley, Anne P. (1977) *Instructor in Medical-Surgical Nursing* B.S.N., 1971, Duke University; M.N., 1977, University of Southern California.
- Shiroka, Alfons (1978) *Assistant Professor of Anesthesiology* M.D., 1964, University of Zagreb.
- Sholley, Milton M. (1976) *Assistant Professor of Anatomy* B.S., 1969, Muhlenberg College; Ph.D., 1974, Temple University.
- Shukla, Ramesh K. (1977) *Assistant Professor of Health Administration* B. Tech. 1967, Indian Institute of Technology; M.S., 1970, Ph.D., 1977, University of Wisconsin.
- Silverman, Joel J. (1975) *Assistant Professor of Psychiatry and Chairman, Division on Consultation/Liaison Psychiatry* B.A., 1965, Washington University; M.D., 1969, University of Kansas Medical Center.
- Singdahlsen, Donald A. (1970) *Assistant Clinical Professor of Periodontics* D.M.D., 1960, Tufts University; M.S.D., 1967, Baylor University.
- Singer, Robert P. (1966) *Assistant Clinical Professor of Neurological Surgery* B.A., 1950, M.D., 1954, Cornell University.
- Singh, Harinder Paul (1976) *Assistant Professor of Anesthesiology* M.B.B.S., 1959, Medical College of Patiala.
- Skaggs, Jerome Donley, Sr. (1975) *Assistant Clinical Professor of Family Practice* A.B., 1956, M.D., 1960, Washington University.
- Skalsky, Harry L. (1977) *Assistant Professor of Pharmacology* B.S., 1966, Southeast Missouri State College; M.A., 1968, Western Michigan University; Ph.D., 1975, North Carolina State University.
- Small, Barbara (1976) *Instructor in Medical Technology* R.T., 1971, Mohawk College, Ontario.
- Small, Ralph E. (1975) *Assistant Professor of Pharmacy* B.S., 1973, University of Toronto; Pharm.D., 1975, Duquesne University.
- Smith, Edwin H. (1975) *Associate Professor of Removable Prosthodontics* D.D.S., 1940, University of Pennsylvania; M.S.D., 1947, Northwestern University; B.S., 1960, University of Maryland.

Board, Administration, and Faculty

- Smith, Frederick K. (1977) *Clinical Instructor in Community Dentistry* D.D.S., 1972, Medical College of Virginia of Virginia Commonwealth University.
- Smith, George R. (1975) *Assistant Clinical Professor of Community Dentistry* D.D.S., 1956, University of Tennessee.
- Smith, Gladstone E., Jr. (1968) *Assistant Clinical Professor of Pathology* B.S., 1952, Hampden-Sydney College; M.D., 1958, Medical College of Virginia.
- Smith, Harold L. (1968) *Associate Professor of Pharmacy* B.S., 1956, Ph.D., 1962, Medical College of Virginia.
- Smith, J. Doyle (1946) *Professor of Pharmaceutical Chemistry* B.S., 1942, M.S., 1944, Ph.D., 1946, University of Virginia.
- Smith, Leroy (1954) *Clinical Professor of Surgery and Oral Surgery* M.D., 1936, Medical College of Virginia.
- Smith, Lindley T. (1975) *Clinical Instructor in Ophthalmology* B.S., 1961, St. Paul's College; M.D., 1966, Meharry Medical College.
- Smith, M. J. Vernon (1968) *Professor of Surgery (Urology)* B.A., 1955, M.B., 1957, M.A., 1960, Cambridge University, England; Ph.D., 1965, Columbia University.
- Smith, Mason (1955) *Clinical Professor of Ophthalmology* B.S., 1936, M.D., 1940, University of Virginia.
- Smith, Maynard P. (1942) *Clinical Professor of Otolaryngology* B.S., 1934, Randolph-Macon College; M.D., 1938, University of Virginia.
- Smith, Ray H. (1969) *Clinical Instructor in Medicine* B.S., 1951, University of Richmond; M.D., 1955, Medical College of Virginia.
- Smith, Robert S. (1975) *Associate Clinical Professor of Family Practice* B.S., 1951, Randolph-Macon College; M.D., 1956, Medical College of Virginia.
- Smith, Wade K. (1975) *Assistant Professor of Medical Oncology* A.B., 1959, Oberlin College; M.D., 1963, Johns Hopkins University.
- Smith, William K. (1976) *Associate Clinical Professor of Medicine* B.A., 1948, St. John's College; M.D., 1953, University of Virginia.
- Snead, Ronald W. (1978) *Assistant Professor of Psychiatry* B.S., 1964, Virginia Polytechnic Institute and State University; M.D., 1968, Medical College of Virginia of Virginia Commonwealth University.
- Snell, Henry M. (1969) *Assistant Clinical Professor of Pathology* B.S., 1958, M.D., 1959, Medical College of Virginia.
- Snodgrass, Michael J. (1973) *Associate Professor of Anatomy* B.A., 1964, Cascade College; M.S., 1969, Ph.D., 1969, University of North Dakota.
- Soine, William H. (1978) *Assistant Professor of Pharmaceutical Chemistry* B.S., 1970, University of Minnesota; M.S., 1975, Ph.D., 1978, University of Kansas.
- Solomon, Stuart (1972) *Assistant Clinical Professor of Pediatrics* B.S., 1953, Massachusetts Institute of Technology; M.S., 1959, Carnegie Institute of Technology; M.D., 1969, Medical College of Virginia of Virginia Commonwealth University.
- Sommer, Sandra Jean (1974), *Instructor in Medical Technology* B.A., 1968, Wartburg College; M.S., 1974, Medical College of Virginia of Virginia Commonwealth University.
- Sorenson, Herbert W. (1978) *Associate Professor of Pedodontics* D.D.S., 1954, Cert. Pedodontics, 1965, University of Toronto.
- Sormus, Helju (1963) *Assistant Clinical Professor of Psychiatry* M.D., 1950, University of Hamburg, Germany.
- Southworth, Lawrence E. (1970) *Assistant Clinical Professor of Radiology* B.A., 1959, University of Richmond; M.D., 1963, Medical College of Virginia.
- Sparks, Howard L. (1966) *Professor of Education and Associate Vice-President for Continuing Education* A.B., 1961, College of William and Mary; M.A., 1963, Ed.D., 1965, Teachers College, Columbia University.
- Spaulding, Margaret R. (1973) *Professor of Nursing and Chairman, Department of Maternal-Child Nursing* B.S., 1948, Wayne State University; M.S., 1953, Ed.D., 1969, Teachers College, New York.
- Speckhart, Vincent (1971) *Assistant Clinical Professor of Medicine* B.S., 1952, Seton Hall University; M.S., 1955, University of Maryland; M.D., 1958, New York Medical College.
- Spector, Paul M. (1976) *Clinical Instructor In Psychiatry* A.B., 1968, Temple University; D.O., 1972, Philadelphia College of Osteopathic Medicine.
- Spellman, Ronald L. (1977) *Clinical Instructor in Pharmacy* B.S., 1973, Medical College of Virginia of Virginia Commonwealth University.
- Spence, Catherine J. (1978) *Assistant Professor of Dental Hygiene* B.S., 1972, A.A., 1973, Mankato State University; M.S., 1977, University of Iowa.
- Spencer, Frederick J. (1962) *Professor of Medicine and Chairman, Department of Preventive Medicine and Assistant Dean, Student Activities, School of Medicine* M.B., B.S., 1945, University of Durham; M.P.H., 1958, Harvard University.
- Spencer, Henry S. (1960) *Clinical Instructor in Radiology* B.S., 1947, Lincoln Memorial University; M.D., 1953, Medical College of Virginia.
- Spencer, Robert F. (1977) *Assistant Professor of Anatomy* B.Sc., 1971, Boston University;

Board, Administration, and Faculty

- Ph.D., 1977, University of Rochester School of Medicine.
- Spencer, William P. (1948) *Associate Professor of Pediatrics and Associate Director of Center for Community Health* B.A., 1942., M.D., 1944, University of Virginia.
- Sporn, Irvin N. (1965) *Clinical Professor of Medicine* B.A., 1954, University of Virginia; M.D., 1957, Medical College of Virginia.
- Stacy, William K. (1972) *Associate Professor in Medicine* B.S., 1957, Presbyterian College; M.D., 1961, Medical College of South Carolina.
- Stallings, William (1974) *Associate Clinical Professor of Family Practice* B.A., 1954, M.D., 1958, University of Virginia.
- Starr, Mary Ann H. (1977) *Clinical Instructor in Pharmacy* B.S., 1973, Medical College of Virginia of Virginia Commonwealth University.
- Stauffer, Suzanne S. (1977) *Instructor in Psychiatry* A.B., 1971, Lenoir Rhyne College; M.S.S.W., 1974, Virginia Commonwealth University.
- Stein, Barry E. (1975) *Assistant Professor of Physiology* B.A., 1966, M.A., 1969, Queens College; Ph.D., 1970, City University of New York.
- Steinfeld, Jesse L. (1976) *Dean, School of Medicine, and Professor of Medicine* B.S., 1945, University of Pittsburgh; M.D., 1949, Western Reserve University.
- Steinke, William E. (1970) *Assistant Professor of Medicine* B.A., 1956, Rutgers University; M.D., 1960, Northwestern University.
- Stephenson, David W. (1975) *Clinical Instructor in Pharmacy* B.S., 1972, Medical College of Virginia of Virginia Commonwealth University.
- Stepka, William (1968) *Professor of Pharmacognosy* B.A., 1946, University of Rochester; Ph.D., 1951, University of California, Berkeley.
- Stevens, John E. (1958) *Assistant Clinical Professor of Medicine* B.A., 1937, University of Richmond; M.D., 1941, Medical College of Virginia; M.S., 1949, University of Minnesota.
- Stewart, James A. (1978) *Instructor in Medicine* B.A., 1971, Ohio Wesleyan University; M.D., 1975, University of Chicago.
- Still, William J. (1965) *Professor of Academic Pathology* M.B., Ch.B., 1951, M.D., 1960, University of Aberdeen.
- Stone, Richard O. (1971) *Assistant Clinical Professor of Oral Pathology* D.M.D., 1969, University of Kentucky.
- Strash, Alfred M. (1971) *Associate Professor of Radiology* B.A., 1963, University of Buffalo; M.S., 1966, Ph.D., 1969, Clarkson College.
- Stratford, Thomas P. (1958) *Associate Clinical Professor of Ophthalmology* A.B., 1948, University of North Carolina; M.D., 1953, Medical College of Virginia; M.S., 1957, University of Michigan.
- Stratton Mark A. (1977) *Instructor in Pharmacy and Pharmaceutics* B.S., 1974, Pharm.D., 1976, University of Missouri.
- Strauss, Sarah S. (1978) *Assistant Professor of Maternal-Child Nursing* B.S., 1969, University of Texas; M.N., 1971, University of Florida.
- Street, Sibyl F. (1977) *Adjunct Instructor in Physiology* A.B., 1929, Vassar College; Ph.D., 1937, University of Chicago.
- Stuart, William T., Jr. (1961) *Clinical Instructor in Surgery (Urology)* B.S., 1950, Randolph-Macon College; M.D., 1954, Medical College of Virginia.
- Stubbins, James F. (1963) *Professor of Pharmaceutical Chemistry* B.S., 1953, University of Nevada; M.S., 1958, Purdue University; Ph.D., 1965, University of Minnesota.
- Suarez, Joseph (1977) *Clinical Instructor in Pharmacy* B.S., 1969, Medical College of Virginia of Virginia Commonwealth University.
- Sugerman, Harvey J. (1978) *Assistant Professor of Surgery* B.S., 1959, Johns Hopkins University; M.S., 1963, M.D., 1966, Jefferson University.
- Sullivan, Humbert G. (1975) *Associate Professor of Surgery* B.S., 1966, Wake Forest University; M.D., 1970, Ohio State University.
- Summer, William C. (1977) *Clinical Instructor in Community Dentistry* D.D.S., 1940, Medical College of Virginia.
- Suter, Cary G. (1959) *Professor and Chairman, Department of Neurology* A.B., 1943, B.S., 1943, Hampden-Sydney College; M.D., 1947, University of Virginia.
- Sutphin, Adney K. (1958) *Associate Clinical Professor of Medicine* B.S., 1946, Concord College; M.D., 1941, Medical College of Virginia.
- Sutton, Charles E. (1975) *Assistant Clinical Professor of Family Practice* B.S., 1948, Virginia Union University; M.D., 1953, Howard University College of Medicine.
- Svirsky, John A. (1976) *Assistant Professor of Oral Pathology* B.A., 1969, University of Richmond; D.D.S., 1973, Medical College of Virginia of Virginia Commonwealth University.
- Svoboda, Joseph (1969) *Clinical Instructor in Ophthalmology* B.S., 1960, Montana State College; M.D., 1963, George Washington University.
- Sweeney, Kevin C. (1978) *Assistant Professor of Periodontics* B.A., 1971, Villanova University; D.D.S., 1975, University of Maryland.
- Swell, Leon (1963) *Research Professor of Gastroenterology* B.S., 1948, City College of New York; M.S., 1949, Ph.D., 1952, George Washington University.

Board, Administration, and Faculty

- Swenson, Nellie S. (1969) *Assistant Professor of Nursing* B.S., 1965, Medical College of Georgia; M.S., 1969, University of Pennsylvania.
- Switz, Donald M. (1970) *Associate Professor of Medicine and Interim Assistant Dean, Continuing Medical Education* B.A., 1958, Carleton College; M.D., 1962, University of Chicago.
- Sylvest, Vernon M. (1974) *Clinical Instructor in Pathology* B.S., 1961, Louisiana State University; M.D., 1966, Louisiana State University School of Medicine.
- Syrop, Harold M. (1952) *Professor of Oral Pathology* D.D.S., 1941, McGill University.
- Szakal, Andras K. (1979) *Associate Professor of Anatomy* B.A., 1961, B.S., 1963, University of Colorado; Ph.D., 1972, University of Tennessee.
- Szentpetery, Szabolos (1975) *Assistant Professor of Surgery* M.D., 1963, Medical School of Budapest.
- Szumski, Alfred J. (1955) *Associate Professor of Physiology* B.S., 1951, Richmond Professional Institute; M.S., 1956, Ph.D., 1964, Medical College of Virginia.
- Tabor, William R. (1960) *Clinical Associate in Medicine* A.B., 1948, University of Richmond; M.D., 1952, Medical College of Virginia.
- Talley, Daniel D., III (1958) *Associate Clinical Professor of Radiology* M.D., 1944, University of Virginia.
- Talman, E. Armistead (1966) *Assistant Clinical Professor of Surgery* B.A., 1954, M.D., 1958, University of Virginia.
- Talton, J. Corbett, II (1977) *Clinical Instructor in Community Dentistry* B.S., 1973, Virginia Polytechnic Institute and State University; D.D.S., 1977, Medical College of Virginia of Virginia Commonwealth University.
- Tankersley, Robert W. Jr. (1968) *Visiting Associate Professor of Microbiology* B.A., 1952, M.A., 1954, Ph.D., 1956, Stanford University.
- Tankersley, Ronald R. (1974) *Assistant Clinical Professor of Oral Surgery* D.D.S., 1968, Medical College of Virginia.
- Tardiff, Robert G. (1978) *Adjunct Associate Professor of Pharmacology* B.A., 1964, Merrimack College; Ph.D., 1968, University of Chicago.
- Tatum, James Luther (1978) *Assistant Professor of Radiology (Nuclear Medicine)* B.S., 1969, College of William and Mary; M.D., 1973, Medical College of Virginia of Virginia Commonwealth University.
- Taub, Robert (1976) *Professor of Medicine and Chairman, Division of Medical Oncology* A.B., 1957, Yeshiva University; M.D., 1961, Yale University; Ph.D., 1969, London University.
- Tauer, Kathleen M. (1978) *Instructor in Maternal-Child Nursing* B.S., 1971, College of St. Teresa; M.S.N., 1973, Certificate, 1973, Pediatric Nurse Practitioner, Yale School of Nursing.
- Taylor, John R. (1972) *Associate Professor of Neurology* B.S., 1952, Wake Forest College; M.D., 1956, Bowman Gray School of Medicine.
- Taylor, Sue C. (1979) *Instructor in Maternal/Child Nursing* B.S., 1969, M.Ed., 1972, University of Virginia.
- Teja, Jagdish S. (1976) *Professor of Psychiatry* M.D., 1960, Punjab University, India.
- Temple, Laurie L. (1977) *Assistant Professor of Dental Hygiene* B.S., 1976, West Virginia University; M.S., 1977, Boston University.
- Temple, T. Eugene, Jr. (1975) *Associate Clinical Professor of Family Practice* A.B., 1957, Mercer University; M.D., 1961, Medical College of Georgia.
- Tenenbaum, Marvin J. (1977) *Instructor in Medicine* B.A., 1967, Brooklyn College; M.D., 1971, Medical College of Virginia of Virginia Commonwealth University.
- Terrill, David G. (1978) *Assistant Professor of Orthodontics* B.S., 1967, Maryville College; D.D.S., 1971, University of Tennessee; M.S., 1978, West Virginia University.
- Terrell, Robert V. (1954) *Associate Clinical Professor of Surgery* B.S., 1930, College of William and Mary; M.D., 1934, Medical College of Virginia.
- Terz, Jose J. (1966) *Professor and Chairman, Surgical Oncology* B.A., 1946, Sarmiento College; M.D., 1952, University of Buenos Aires, Argentina.
- Tesh, Esther M. (1972) *Assistant Professor of Maternal-Child Nursing* B.S.N., 1962, University of North Carolina; M.N., 1971, University of Pittsburgh.
- Tew, John (1972) *Associate Professor of Microbiology* B.S., 1966, M.S., 1967, Ph.D., 1970, Brigham Young University.
- Texter, John H. Jr. (1971) *Associate Professor of Surgery (Urology)* A.B., 1958, M.D., 1962, Johns Hopkins University.
- Thacker, Wallace B. (1973) *Clinical Instructor in Pharmacy* B.S., 1950, Medical College of Virginia.
- Theogarj, S. Dawson (1972) *Professor of Plastic Surgery* M.B.B.S., 1958, M.S., 1962, Medical College of South India.
- Theus, Richard B. (1973) *Assistant Clinical Professor of Radiation Physics* B.S., 1948, Stetson University.
- Thomas, Carolyn E. (1975) *Instructor in Pathology* B.S., 1968, Westhampton College; M.D., 1972, Medical College of Virginia of Virginia Commonwealth University.

Board, Administration, and Faculty

- Thomas, Charlotte W. (1976) *Assistant Professor of Nursing* B.S., 1973, M.S., 1975, Medical College of Virginia of Virginia Commonwealth University.
- Thomas, Francis T. (1971) *Associate Professor of Surgery* B.S., 1960, M.D., 1964, University of Minnesota.
- Thomas, George Walter (1975) *Assistant Clinical Professor of Clinical Pathology* B.A., 1968, University of Richmond; M.D., 1972, Medical College of Virginia of Virginia Commonwealth University.
- Thomas, J. Warrick (1954) *Associate Clinical Professor of Medicine* B.S., 1930, M.D. 1934, University of Georgia.
- Thomas, James L. (1975) *Clinical Instructor in Pharmacy* B.S., 1972, Medical College of Virginia of Virginia Commonwealth University.
- Thomas, Judith M. (1971) *Associate Professor of Surgery* B.A., 1965, Manhattanville College; M.S., 1969, Ph.D., 1972, New York University.
- Thompson, Albert S. Jr. (1964) *Clinical Associate in Pediatrics* B.S. 1954, M.D., 1960, Medical College of Virginia.
- Thompson, Dennis D. (1977) *Clinical Instructor in Pharmacy* B.S., 1971, Medical College of Virginia of Virginia Commonwealth University.
- Thompson, James A. (1978) *Instructor in Medicine* B.S., 1971, Virginia Polytechnic Institute and State University; M.D., 1975, Medical College of Virginia of Virginia Commonwealth University.
- Thomson, James K. (1977) *Clinical Instructor in Pharmacy* B.S., 1967, Medical College of Virginia.
- Thornhill, Harold V. (1958) *Lecturer in Legal Medicine* A.B., 1942, Lynchburg College; LL.B., 1948, University of Virginia.
- Thornton, John L. (1953) *Clinical Professor of Pathology* M.D. 1949, Medical College of Virginia.
- Thornton, William S. (1973) *Assistant Clinical Professor of Medicine* D.P.M., 1950, Ohio College of Podiatric Medicine.
- Tilley, David Hugh (1977) *Assistant Professor of Psychiatry* B.A., 1965, M.A., 1967, Duke University; M.P.H., 1974, University of North Carolina.
- Tingley, Virginia T. (1965) *Assistant Clinical Professor of Psychiatry (Psychology)* B.S., 1939, M.S., 1940, Pennsylvania State College.
- Tinnell, Wayne H. (1978) *Adjunct Associate Professor of Microbiology* A.A., 1963, Ferrum Junior College; B.S., 1965, M.S., 1967, Ph.D., 1969, Virginia Polytechnic Institute and State University.
- Tisnado, Jaime (1977) *Assistant Professor of Radiology* B.S., 1957, M.D., 1964, San Marcos National University, Lima, Peru.
- Title, Irwin (1973) *Clinical Instructor in Pharmacy* B.S., 1950, George Washington University.
- Titus, C. Kent (1976) *Assistant Clinical Professor of Medicine* B.A., 1966, Williams College; M.D., 1970, University of Virginia.
- Tomsich, Rosa B. (1968) *Assistant Professor of Psychiatry* M.D., 1962, University of Buenos Aires.
- Toone, Elam C., Jr. (1936) *Professor of Medicine* B.A., 1929, Hampden-Sydney College; M.D., 1934, Medical College of Virginia.
- Topich, Joseph (1978) *Assistant Professor of Physiology* B.A., 1970, Columbia University; Ph.D., 1974, Case Western Reserve University.
- Tortorella, Frank J. (1975) *Instructor in Medicine* B.A., 1964, Seaton Hall University; M.D., 1969, University of Bologna, Italy.
- Townsend, J. I. (1960) *Associate Professor of Human Genetics* B.S., 1941, University of South Carolina; Ph.D., 1952, Columbia University.
- Tregaskes, Joseph N. (1976) *Assistant Clinical Professor of Restorative Dentistry* B.A., 1967, St. Vincent College; D.M.D., 1971, University of Pittsburgh.
- Trice, E. Randolph (1958) *Associate Clinical Professor of Dermatology* B.S., 1943, Hampden-Sydney College; M.D., 1947, Medical College of Virginia.
- Troland, Charles E. (1964) *Clinical Professor of Neurological Surgery* B.S., 1932, Hampden-Sydney College; M.D., 1936, Johns Hopkins University.
- Tsao, Ding H. (1975) *Assistant Professor of Removable Prosthodontics* B.D., 1960, Defense Medical Center; D.D.S., 1974, State University of New York.
- Tucker, Anne N. (1978) *Adjunct Assistant Professor of Pharmacology* B.S., 1964, Ph.D., 1976, University of Kentucky.
- Tucker, Henry St. George (1940) *Professor of Medicine and Chairman, Division of Endocrinology and Metabolism* B.A., 1933, M.D., 1937, University of Virginia.
- Tucker, Henry St. George, III (1977) *Assistant Professor of Medicine* B.A., 1965, Yale University; M.D., 1969, University of Virginia.
- Tucker, Patsy (1978) *Clinical Instructor in Dental Hygiene* R.N., 1969, St. Luke's Hospital.
- Tucker, Stanley C. (1974) *Clinical Instructor in Medicine* B.S., 1965, University of Richmond; M.D., 1969, University of Virginia.
- Tucker, Weir M. (1954) *Clinical Professor of Neurology* M.D., 1942, University of Virginia.
- Tucker, William T. (1958) *Clinical Instructor in Medicine* M.D., 1951, University of Virginia.
- Tunner, William Sams (1973) *Assistant Professor of Surgery (Urology)* B.A., 1955, Washington

Board, Administration, and Faculty

- and Lee University; M.D., 1960, University of Virginia.
- Turner, Mary Ann (1975) *Assistant Professor of Radiology* B.S., 1967, M.D., 1971, University of Alabama.
- Ulbrich, Walter H. (1975) *Assistant Professor of Radiology* M.D., 1939, Friedrich-Wilhelm's University of Berlin.
- Ulmer, Jack L. (1963) *Professor of Neurological Surgery* B.A., 1933, Mississippi College; M.D., 1937, Vanderbilt University.
- Uwaydah, Ibrahim M. (1978) *Adjunct Assistant Professor of Pharmacology* B.Sc., 1967, American University of Beirut; Ph.D., 1974, University of Kansas.
- Valentour, James C. (1976) *Assistant Professor of Legal Medicine* B.S., 1963, St. Vincent College; Ph.D., 1970, Duquesne University.
- Van Ostenberg, Paul R. (1978) *Assistant Professor of Community Dentistry and Associate Director of the Robert Wood Johnson Foundation Hospital Sponsored Ambulatory Dental Services Program* A.A., 1961, St. Petersburg Junior College; B.A., 1963, University of South Florida; D.D.S., 1967, Medical College of Virginia.
- Van Sant, Anna F. (1976) *Assistant Professor of Physical Therapy* B.S., 1967, Russell Sage College; M.S., 1976, Medical College of Virginia of Virginia Commonwealth University.
- van't Riet, Bartholomeus (1964) *Associate Professor of Pharmaceutical Chemistry* B.S., 1950, Vrije University, Amsterdam, Netherlands; Ph.D., 1957, University of Minnesota.
- Van Tuyle, Glenn Charles (1974) *Assistant Professor of Biochemistry* A.B., 1965, Lafayette College; Ph.D., 1971, Thomas Jefferson University.
- Vaselich, Felicie Edna (1974) *Instructor in Nurse Anesthesia* R.N., 1967, Touro Infirmary School of Nursing.
- Vasinanukorn, Mayuree (1978) *Assistant Professor of Anesthesiology* M.D., 1971, School of Medicine, Chulalongkorn University.
- Vaughan, David D. (1958) *Assistant Clinical Professor of Medicine* M.D., 1946, Harvard University.
- Velo, Anthony G. (1967) *Clinical Instructor in Neurological Surgery* M.D., 1949, Central University, Madrid.
- Vennart, George P. (1965) *Professor and Chairman, Department of Pathology* A.B., 1948, Wesleyan University; M.D., 1953, University of Rochester.
- Vetrovec, George (1976) *Assistant Professor of Medicine* B.A., 1966, M.D., 1970, University of Virginia.
- Vickery, Donald M. (1975) *Associate Clinical Professor of Family Practice* A.B., 1965, M.D., 1969, Harvard University.
- Vines, Frederick S. (1976) *Professor of Radiology and Chairman, Division of Diagnostic Radiology* B.S., 1957, Bethany College; M.D., 1961, University of Virginia.
- Vinik, Melvin (1969) *Associate Clinical Professor of Radiology* M.D., 1960, University of Chicago.
- Vipperman, Judy F. (1972) *Assistant Professor of Nursing* B.S.N., 1970, University of North Carolina.
- Vitols, Edite T. (1972) *Clinical Instructor in Psychiatry* M.D., 1946, Medical School, Hamburg, Germany; M.D., 1955, Duke Medical Center, Durham, N.C.
- Vitols, Mintauts M. (1969) *Assistant Clinical Professor of Psychiatry* M.D., 1947, University of Hamburg; M.D., 1956, University of North Carolina.
- Vlahcevic, Z. R. (1966) *Professor of Medicine, Gastroenterology* M.D., 1956, Medical School of the University, Yugoslavia.
- Vogel, Albert (1978) *Clinical Instructor in Community Dentistry* D.D.S., 1938, University of Minnesota.
- Vogel, Michael L. (1977) *Clinical Instructor in Psychiatry* A.A., 1968, City College of San Francisco; B.A., 1970, Chico State University; M.S.S.W., 1973, Virginia Commonwealth University.
- Volk, Stephan C. (1976) *Clinical Instructor in Ophthalmology* B.S., 1968, University of Richmond; M.D., 1972, Medical College of Virginia of Virginia Commonwealth University.
- Waddell, Marion C. (1960) *Assistant Clinical Professor of Ophthalmology* B.S., 1954, M.D., 1955, Medical College of Virginia.
- Waitkus, Alexander M. (1978) *Assistant Professor of Orthodontics* B.S., 1962, D.D.S., 1970, West Virginia University; M.S., 1976, University of Rochester.
- Waitkus, Nancy (1977) *Assistant Clinical Professor of Pedodontics* B.S., 1960, D.D.S., 1963, West Virginia University.
- Walker, Barry Q. (1970) *Associate Clinical Professor of Radiology* A.B., 1950, Middlebury College; M.S., 1952, University of Arkansas; M.D., 1956, Western Reserve University.
- Walker, Thomas C. (1978) *Instructor in Physiology* B.S., 1970, Fairleigh Dickinson University; M.S., 1972, Ph.D., 1976, University of Virginia.
- Wallace, Carolease B. (1974) *Assistant Professor of Community Health Nursing* B.S., Ph.N., 1954, M.P.H., 1966, University of Michigan.
- Wallace, James C. (1978) *Instructor in Oral Surgery* B.S., 1970, University of Florida;

Board, Administration, and Faculty

- D.D.S., 1974, Medical College of Virginia of Virginia Commonwealth University.
- Waller, Marion V. (1952) *Professor of Medicine* B.A., 1940, Hunter College; M.S., 1953, Ph.D., 1959, Medical College of Virginia.
- Walsh, James William (1978) *Assistant Professor of Radiology* H.A.B., 1968, Xavier University; M.D., 1972, Northwestern University.
- Walthall, David B., III (1972) *Associate Professor of Family Practice and Assistant Dean for Continuing Education, School of Medicine* B.A., 1957, M.D., 1961, University of Virginia.
- Wampler, Galen L. (1971) *Associate Professor of Medicine* B.A., 1955, Bridgewater College; M.D., 1959, Medical College of Virginia.
- Ward, John D. (1977) *Assistant Professor of Surgery (Neurosurgery)* B.S., 1966, Xavier University; M.D., 1970, University of Cincinnati.
- Ward, John E. (1973) *Associate Professor of Removable Prosthodontics* A.B., 1962, Hanover College, Indiana; D.D.S., 1966, Indiana University School of Dentistry.
- Ware, H. Hudnall, III (1966) *Clinical Instructor in Obstetrics and Gynecology* B.A., 1954, M.D., 1958, University of Virginia.
- Ware, James L. (1969) *Associate Clinical Professor of Surgery (Plastic and Reconstructive)* B.A., 1955, University of Virginia; M.D., 1959, Medical College of Virginia.
- Ware, Ralph M., Jr. (1956) *Instructor in Pharmacy* B.S., 1942, Medical College of Virginia.
- Waseen, James A. (1974) *Assistant Professor of Radiologic Technology* B.S., 1970, Anderson-Broadbudd College.
- Wasserman, Albert J. (1956) *Professor of Medicine, Chairman, Division of Clinical Pharmacology, and Executive Associate Dean, School of Medicine* B.A., 1947, University of Virginia; M.D., 1951, Medical College of Virginia.
- Wassum, James (1976) *Clinical Instructor in Radiology* B.S., 1968, Roanoke College; M.D., 1972, Medical College of Virginia of Virginia Commonwealth University.
- Watkins, Franklin P. (1960) *Clinical Instructor in Orthopedic Surgery* B.A., 1949, M.D., 1953, Emory University.
- Watlington, Charles O. (1962) *Professor of Medicine* B.S., 1954, Virginia Polytechnic Institute; M.D., 1958, Ph.D., 1968, Medical College of Virginia.
- Watson, Herbert T. (1977) *Associate Professor and Chairman, Department of Nurse Anesthesia* Diploma, 1950, Willard State Hospital; CRNA, 1958, Brooke Army Hospital; B.S.N, 1965, Syracuse University; M.Ed., 1973, Columbia University.
- Watts, Daniel T. (1966) *Dean, School of Basic Sciences, and Professor of Pharmacology* B.S., 1937, Elon College; Ph.D., 1942, Duke University.
- Watts, Margaret O. (1976) *Instructor in Center for Community Health* B.A., 1970, Winthrop College; M.S., 1975, Medical College of Virginia of Virginia Commonwealth University.
- Waybright, Edward A. (1978) *Assistant Professor of Neurology* B.S., 1969, M.D., 1973, West Virginia University.
- Weaver, Warren E. (1950) *Dean, School of Pharmacy and Professor of Pharmacy* B.S., 1942, Ph.D., 1947, University of Maryland.
- Webb, William H. (1978) *Assistant Clinical Professor of Restorative Dentistry* B.S., 1960, University of Florida; D.D.S., 1968, Medical College of Virginia.
- Weber, David J. (1976) *Assistant Professor of Psychiatry* B.A., 1966, Rutgers College; M.D., 1971, Jefferson Medical College of Philadelphia.
- Weber, Robert E. (1977) *Clinical Instructor in Pharmacy* B.S., 1959, College of William and Mary; B.S., 1964, Medical College of Virginia.
- Weger, Marvin Louis (1975) *Assistant Clinical Professor of Family Practice* A.B., 1954, University of Pennsylvania; M.D., 1958, Medical College of Virginia.
- Weglicki, William B. (1975) *Professor and Chairman, Department of Biophysics* B.S., 1958, Loyola College; M.D., 1962, University of Maryland.
- Weinberg, Robert S. (1978) *Assistant Professor of Ophthalmology* B.A., 1966, M.D., 1969, John Hopkins University.
- Weinstein, Julian (1955) *Assistant Clinical Professor of Pediatrics* M.D., 1951, Medical College of Virginia.
- Weisiger, Benjamin B., III (1966) *Assistant Clinical Professor of Medicine* B.A., 1944, M.D., 1947, University of Virginia.
- Weir, Gordon (1976) *Associate Professor of Medicine* B.A., 1963, Dartmouth College; M.D., 1967, Harvard Medical School.
- Welk, Paul C., III (1977) *Clinical Instructor in Pharmacy* B.S., 1970, M.S., 1973, University of Maryland.
- Wells, James M., Jr. (1972) *Assistant Clinical Professor of Pediatrics* A.B., 1964, University of North Carolina; M.D., 1969, Medical College of Virginia.
- Welshimer, Herbert J. (1949), *Professor and Acting Chairman, Department of Microbiology*, B.S., 1943, Ph.D., 1947, Ohio State University.
- Wergin, Jon Fredric (1973) *Associate Professor of Educational Planning and Development* B.A., 1968, M.A., 1970, Ph.D., 1973, University of Nebraska.

Board, Administration, and Faculty

- West, Nathaniel M. (1975) *Assistant Professor of Endodontics* B.S., 1958, Virginia State College; D.D.S., 1965, Howard University; M.P.H., 1973, University of Minnesota.
- Wheeler, Gary (1978) *Instructor in Medicine* B.S., 1967, Emory and Henry College; M.D., 1971, Medical College of Virginia of Virginia Commonwealth University.
- Whitaker, Deborah Wood (1978) *Instructor in Occupational Therapy* B.S., 1973, Medical College of Virginia of Virginia Commonwealth University.
- White, Clifford E. (1964) *Associate Professor of Pharmacy* B.S., 1956, Medical College of Virginia; J.D., 1962, University of Richmond.
- White, Eugene V. (1973) *Assistant Clinical Professor of Pharmacy* B.S., 1950, Medical College of Virginia.
- White, Hubert (1973) *Clinical Instructor of Pathology* B.S., 1957, M.D., 1960, University of Maryland.
- White, John C. (1976) *Assistant Professor of Pharmacology and Medicine* B.A., 1969, Eastern Baptist College; Ph.D., 1973, University of Virginia.
- White, Robert (1972) *Instructor in Library Sciences* A.B., 1969, California State University; M.S., 1972, University of Southern California.
- White, Stuart B. (1972) *Associate Clinical Professor of Family Practice* B.S., 1952, Hampden-Sydney College; M.D., 1957, Medical College of Virginia.
- Wiatt, Alexander L. (1977) *Clinical Instructor in Pharmacy* B.S., 1973, Medical College of Virginia of Virginia Commonwealth University.
- Wickham, James R. (1967) *Clinical Instructor in Medicine* B.A., 1954, B.S., 1956, West Virginia University; M.D., 1960, Medical College of Virginia.
- Wiebusch, F. B. (1954) *Professor of Periodontics and Assistant Dean of Continuing Education, School of Dentistry* B.B.A., 1943, D.D.S., 1947, University of Texas.
- Wiecking, David E. (1972) *Professor and Chairman, Department of Legal Medicine, and Professor of Pathology* A.B., 1954, Princeton University; M.D., 1960, Johns Hopkins University; LL.B., 1969, University of Virginia.
- Wiedeman, Carson (1978) *Instructor in Removable Prosthodontics* B.A., 1967, University of Virginia; D.D.S., 1976, Medical College of Virginia of Virginia Commonwealth University.
- Wiesinger, Herbert (1966) *Clinical Professor of Ophthalmology* M.D., 1950, University of Vienna.
- Wiley, E. James, Jr. (1960) *Clinical Instructor in Pediatrics* B.A., 1952, Virginia Military Institute; M.D., 1956, Medical College of Virginia.
- Wiley, Patricia L. (1961) *Professor and Chairman, Department of Psychiatric Nursing* B.S., 1959, Johns Hopkins University; M.S., 1961, University of Maryland; D.N.Sc., 1969, Boston University.
- Wilkerson, Claude M., Jr. (1976) *Clinical Instructor in Pedodontics* B.S., 1971, D.D.S., 1975, Medical College of Virginia of Virginia Commonwealth University.
- Wilkerson, Vivian M. (1963) *Clinical Associate in Pediatrics* B.S., 1946, Mary Washington College; M.D., 1958, Medical College of Virginia.
- Wilkes, William L. (1977) *Clinical Instructor in Otolaryngology* B.S., 1963, University of Georgia; M.D., 1967, Medical College of Georgia.
- Williams, Armistead M. (1959) *Associate Clinical Professor of Surgery* B.A., 1948, M.D., 1952, University of Virginia.
- Williams, Carrington Jr., (1958) *Clinical Professor of Surgery* B.A., 1938, University of Virginia; M.D., 1942, Harvard University.
- Williams, Faye D. (1976) *Instructor in Library Sciences* B.A., 1971, State University of New York; M.S., 1972, Simmons College.
- Williams, George H. (1973) *Professor and Chairman, Department of Otolaryngology, and Laryngology* B.S., 1952, M.D., 1956, Tulane University.
- Williams, Louis H. (1958) *Assistant Clinical Professor of Obstetrics and Gynecology* M.D., 1951, Duke University.
- Williams, Jeffery S. (1975) *Clinical Instructor in General and Preventive Dentistry* B.S., 1969, University of Florida; D.D.S., 1973, Medical College of Virginia of Virginia Commonwealth University.
- Williams, Paul D. (1975) *Assistant Professor of Hospital and Health Administration* B.S., 1953, M.S., 1957, University of Kentucky; M.H.A., 1972, Medical College of Virginia of Virginia Commonwealth University.
- Williams, Ray C. (1955) *Assistant Professor of Biophysics*.
- Williams, Richard K. (1956) *Associate Clinical Professor of Ophthalmology* B.S., 1943, University of Richmond; M.D., 1946, Medical College of Virginia.
- Williams, Robert K. (1958) *Associate Clinical Professor of Psychiatry* M.D., 1948, Medical College of Virginia.
- Williams, Robert Owen (1964) *Assistant Clinical Professor of Medicine* M.D., 1954, Medical College of Virginia.
- Williams, W. Loren, Jr. (1972) *Professor and Director for Educational Planning and*

Board, Administration, and Faculty

- Development* B.S., 1950, M.A., 1951, University of South Carolina; Ph.D., 1955, University of Tennessee.
- Williams, William C. (1963) *Assistant Clinical Professor of Orthodontics* B.S., 1956, D.D.S., 1957, Medical College of Virginia.
- Wilson, Henry H., Jr. (1973) *Clinical Instructor in Surgery* B.A., 1945, M.D., 1949, University of Virginia.
- Wilson, James M. (1977) *Instructor in Educational Planning and Development* B.A., 1974, University of Texas at Austin; M.Ed., 1976, Virginia Commonwealth University.
- Wilson, John D. (1970) *Associate Professor of Radiology* B.A., 1960, Carleton College; M.S., 1963, Ph.D., 1966, University of Illinois.
- Wilson, Richard D. (1970) *Clinical Professor of Periodontics* D.D.S., 1958, Temple University.
- Wilson, Richard S. (1976) *Clinical Instructor in Restorative Dentistry* B.S., 1965, Richmond Professional Institute; D.D.S., 1969, Medical College of Virginia of Virginia Commonwealth University.
- Windmuller, Eric A. (1975) *Clinical Instructor in Pharmacy* B.S., 1944, Hobart College; B.S., 1954, Medical College of Virginia.
- Windridge, Graham C. (1972) *Associate Professor of Pharmaceutical Chemistry and Assistant Dean, School of Pharmacy* Pharm. D., 1965, Ph.D., 1969, University of California.
- Wingfield, William L. (1958) *Clinical Associate in Medicine* M.D., 1937, Medical College of Virginia.
- Wingo, Charles F. (1954) *Associate Professor of Medicine* M.D., 1945, Medical College of Virginia.
- Winkler, Charles P. (1967) *Clinical Instructor in Radiology* B.S., 1953, West Virginia University; M.D., 1955, Medical College of Virginia.
- Winston, York Edward (1977) *Clinical Instructor in Obstetrics and Gynecology* B.S., Wake Forest University; M.D., 1972, Medical College of Virginia of Virginia Commonwealth University.
- Wise, James Lafayette, Jr. (1975) *Assistant Clinical Professor of Family Practice* A.B., 1958, B.S., 1960, Carson-Newman College; M.D., 1964, Louisiana State University.
- Wist, Abund O. (1976) *Assistant Professor of Computer Science* B.S., 1947, University of Graz; Ph.D., 1951, University of Vienna.
- Witherspoon, John (1977) *Associate Professor and Chairman, Division of General Medicine and Primary Care* A.B., 1962, M.D., 1967, Duke University.
- Witorsch, Raphael J. (1970) *Associate Professor of Physiology* A.B., 1963, New York University; M.S., 1965, Ph.D., 1968, Yale University.
- Wittemann, Joseph K. (1972) *Associate Professor of General and Preventive Dentistry and Director of Educational Planning and Development* B.S., 1964, State University of New York; M.A., 1967, Ph.D., 1972, Ohio State University.
- Wittrock, John W. (1974) *Associate Professor and Chairman, Department of Restorative Dentistry* B.S., 1956, Kansas State University; D.D.S., 1960, University of Missouri; M.A., 1965, San Francisco State College.
- Wolf, Barry (1978) *Assistant Professor of Human Genetics* B.S., 1969, University of Illinois; M.D., Ph.D., 1974, University of Illinois College of Medicine.
- Wolfe, Eleanor V. (1957) *Associate Professor of Occupational Therapy* B.S., 1945, University of North Carolina; M.A., 1951, Texas Woman's University.
- Wolff, Stuart F. (1978) *Clinical Instructor in Pedodontics* B.S., 1971, New Mexico State University; D.D.S., 1976, Medical College of Virginia of Virginia Commonwealth University.
- Wood, Daniel W. (1978) *Clinical Instructor in Community Dentistry* B.S., 1970, Brooklyn College; D.M.D., 1974, Tufts University.
- Wood, George W., II (1977) *Assistant Professor of Surgery* A.B., 1969, Washington and Jefferson College; M.D., 1973, Hahnemann Medical College.
- Wood, John H. (1969) *Professor of Pharmacy* B.Sc., 1946, M.Sc., 1947, University of Manitoba; Ph.D., 1950, Ohio State University.
- Wood, Maurice (1971) *Professor of Family Practice* M.B., B.S., 1945, Durham University; M.R.C.G.P., 1966, Royal College of General Practitioners.
- Wood, Robert L. (1972) *Clinical Instructor in Preventive Medicine* B.A., 1949, Pacific Union College; M.A., 1950, Andrews University; M.S.P.H., 1956, University of North Carolina; M.D., 1965, National University of Mexico.
- Wood, Roger E. (1977) *Assistant Clinical Professor of Pedodontics* A.B., 1967, Elon College; D.D.S., 1975, Medical College of Virginia of Virginia Commonwealth University.
- Woodlief, Ray M. (1974) *Assistant Professor of Radiology* B.S., 1960, Wake Forest University; M.D., 1964, Bowman Gray School of Medicine.
- Woods, Lauren A. (1970) *Acting Vice-President for Health Sciences and Professor of Pharmacology* B.S., 1939, Dakota Wesleyan University; Ph.D., 1943, Iowa State University; M.D., 1949, University of Michigan.
- Woodson, Billie Hall (1978) *Instructor in Pharmacy* B.S., 1974, Medical College of Virginia of Virginia Commonwealth University.
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Board, Administration, and Faculty

- Wootton, Percy (1963) *Clinical Instructor in Medicine* B.S., 1953, Lynchburg College; M.D., 1957, Medical College of Virginia.
- Wouters, Marianne L. (1971) *Assistant Clinical Professor of Psychiatry (Child)* M.D., 1949, Medical School of Vienna.
- Wright, R. Lewis (1971) *Assistant Clinical Professor of Neurological Surgery* B.A., 1951, University of Richmond; M.D., 1955, Medical College of Virginia.
- Wyatt, Davis B. (1971) *Assistant Clinical Professor of Ophthalmology* A.B., 1951, Washington and Lee University; M.D., 1955, Medical College of Virginia.
- Yaghmai, Issa (1973) *Professor of Radiology* M.D., 1959, Teheran University, Iran.
- Yancey, Denez W. (1979) *Instructor in Community Health Nursing* B.S.N., 1970, University of Virginia; M.S.N., 1978, Virginia Commonwealth University.
- Yancey, Henry A. (1968) *Assistant Clinical Professor of Orthopedic Surgery* B.S., 1953, M.D., 1957, Duke University.
- Yanovich, Saul (1978) *Assistant Professor of Medicine* M.D., 1970, Javeriana University.
- Yingling, Doris B. (1958) *Dean, School of Nursing and Professor of Nursing* B.S., 1944, University of Oregon; M.A., 1951, Ed.D., 1956, University of Maryland.
- Yoe, B. Klara (1962) *Assistant Professor of Medicine* M.D., 1944, Steven Tisza University, Debrecen, Hungary.
- Yost, Basil O., Jr. (1975) *Clinical Instructor in General and Preventive Dentistry* D.D.S., 1953, Baltimore College of Dental Surgeons.
- Young, Estelle I. (1977) *Clinical Instructor in Dermatology* B.A., 1967, Mount Holyoke College; M.D., 1971, Downstate Medical Center.
- Young, Harold F. (1972) *Professor of Surgery, Neurosurgery* B.A., 1959, M.D., 1963, Ohio State University.
- Young, Jacqueline (1976) *Clinical Instructor in Pharmacy* B.S., 1950, Ohio State University.
- Young, Reuben B. (1963) *Associate Dean for Continuing Medical Education and Professor of Pediatrics* B.S., 1950, College of William and Mary; M.D., 1957, Medical College of Virginia.
- Young, Robert A., Jr. (1976) *Assistant Professor of Patient Counseling* B.A., 1965, University of Richmond; M.Div., 1969, D.Min., 1973, Union Theological Seminary.
- Youngblood, Walker P. (1975) *Assistant Clinical Professor of Family Practice* B.S., 1934, University of South Carolina; M.D., 1950, Medical College of South Carolina.
- Younger, Janet B. (1972) *Co-Program Director, Pediatric Nurse Practitioner Program and Assistant Professor of Maternal-Child Nursing* B.S., 1967, Medical College of Virginia; M.Ed., 1970, University of Virginia; M.S., 1972, Virginia Commonwealth University.
- Youngkin, Ellis (1974) *Associate Professor of Nursing* B.S., 1961, Duke University; M.S., 1964, University of Maryland.
- Zacharias, Charles (1978) *Assistant Professor of Medicine* B.A., 1969, University of Virginia; M.D., 1973, Medical College of Virginia of Virginia Commonwealth University.
- Zacharias, Lawrence C. (1962) *Clinical Instructor in Medicine* B.A., 1952, University of Richmond; M.D., 1956, Medical College of Virginia.
- Zakaib, Edward Albert (1975) *Assistant Clinical Professor of Family Practice* B.A., 1958, West Virginia University; M.D., 1962, Medical College of Virginia.
- Zalis, Andree W. (1974) *Associate Professor of Rehabilitation Medicine* B.S., 1945, University of Paris; M.D., 1953, University of Strasbourg.
- Zaller, Eli J. (1975) *Clinical Instructor in Psychiatry* B.A., 1967, Queens College, City University of New York; M.D., 1971, Medical College of Virginia of Virginia Commonwealth University.
- Zanga, Joseph (1978) *Associate Professor and Director of Section of General and Ambulatory Pediatrics* B.S., 1966, Fordham University; M.D., 1971, Loyola University.
- Zechini, Richard R. (1976) *Assistant Clinical Professor of Orthodontics* B.S., 1960, Lynchburg College; D.D.S., 1964, Medical College of Virginia of Virginia Commonwealth University.
- Zfass, Alvin M. (1963) *Professor of Medicine, Gastroenterology* B.A., 1953, University of Virginia; M.D., 1957, Medical College of Virginia.
- Ziegler, R. Scott (1978) *Assistant Clinical Professor of Periodontics* D.M.D., 1967, University of Pennsylvania.
- Zieve, Franklin J. (1977) *Associate Professor of Medicine* A.B., 1966, Harvard University; M.D., 1971, Ph.D., 1971, University of Minnesota.
- Zimberg, Yale H. (1968) *Clinical Professor of Surgery* B.A., 1947, University of Virginia; M.D., 1956, Medical College of Virginia.
- Zito, S. William (1978) *Instructor in Biochemistry* B.S., 1966, St. John's University; Ph.D., 1974, University of Connecticut.
- Zocco, James (1978) *Instructor in Surgery* B.A., 1969, Manhattan College; M.D., 1973, New Jersey College of Medicine.
- Zucker, Steven B. (1974) *Assistant Professor of General and Preventive Dentistry* B.A., 1969, University of Pennsylvania; D.M.D., 1973, University of Connecticut; M.Ed., 1973, University of Hartford.

Board, Administration, and Faculty

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- Abbott, Lynn D., Jr. *Professor and Chairman, Department of Biochemistry* B.S., 1936, M.S., 1937, Wayne State University; Ph.D., 1940, University of Michigan.
- Ambrose, Anthony M., *Professor of Pharmacology* B.S., 1924, Philadelphia College of Pharmacy and Science; M.S., 1927, Ph.D., 1929, Fordham University.
- Camp, Paul D., *Associate Clinical Professor of Medicine* B.S., Virginia Military Institute; M.D., 1928, University of Virginia.
- Caravati, Charles M., *Professor of Medicine* M.D., 1922, Medical College of Virginia.
- Clough, O. Wendell, *Professor of Dentistry* B.S., 1929, D.D.S., 1932, Dalhousie University; M.S., 1934, University of Rochester.
- Cunningham, George J., *Professor of Pathology* M.R.C.S., L.R.C.P., 1931, M.B.B.S., 1933, M.D., 1937, University of London.
- Dawson, A. Ray, *Professor and Chairman, Department of Physical Medicine and Rehabilitation* M.D., 1929, Medical College of Virginia.
- Drewry, Patrick H., Jr. *Professor of Psychiatry* M.D., 1932, Johns Hopkins University.
- Fischer, Ernst, *Professor of Physiology* M.D., 1923, University of Frankfurt.
- Forbes, John C., *Professor of Biochemistry* Ph.D., 1925, McGill University.
- Graham, A. Stephens, *Associate Clinical Professor of Surgery* M.D., 1925, University of Minnesota; M.S., 1932, Fellow Mayo Foundation for Medical Education and Research.
- Ham, William T., Jr. *Professor of Biophysics* B.S., 1931, M.S., 1933, Ph.D., 1935, University of Virginia.
- Hegre, Erling S., *Professor of Anatomy* B.A., 1931, Luther College; M.S., 1941, Ph.D., 1942, University of Minnesota.
- Hoff, Ebbe, *Professor of Psychiatry* B.S., 1928, University of Washington; B.A., 1930, Ph.D., 1932, M.A., 1935, M.D., 1941, University of Oxford.
- Hoge, Randolph H., *Professor of Obstetrics and Gynecology* B.S., 1924, University of Virginia; M.D., 1928, Harvard University.
- Huf, Ernst G. *Professor of Physiology* Ph.D., 1931, M.D., 1937, University of Frankfurt.
- Ingersoll, Everett H., *Professor of Anatomy* B.S., 1925, M.S., 1926, Kansas State College; Ph.D., 1932, St. Louis University.
- Jordan, William R., *Clinical Professor of Medicine* B.S., 1922, Virginia Polytechnic Institute; M.D., 1928, University of Virginia.
- Knighton, Holmes T., *Professor of Dentistry and Microbiology* D.D.S., 1926, Tulane University.
- Larson, Paul S., *Professor of Pharmacology* A.B., 1930, Ph.D., 1934, University of California.
- Lee, Herbert C. *Professor of Surgery* A.B., 1932, M.D., 1935, University of Wisconsin.
- Lynch, John P., *Associate Clinical Professor of Medicine* A.B., 1930, Washington and Lee University; M.D., 1935, Medical College of Virginia.
- Lyons, Harry, *Dean, School of Dentistry* D.D.S., 1923, Medical College of Virginia.
- McCluer, Margaret, *Directing Librarian.*
- Modjeski, Philip J., *Professor and Chairman, Department of Restorative Dentistry* B.S., 1939, D.D.S., 1941, University of Illinois.
- Nelson, E. Clifford, *Professor of Microbiology* B.A., 1929; M.A., 1930, University of Colorado; Sc.D., 1933, Johns Hopkins University.
- Nelson, Kinloch, *Dean, School of Medicine* B.A., 1923, M.D., 1927, University of Virginia.
- Neuroth, Milton L., *Professor of Pharmacy* B.S., 1935, M.S., 1940, Ph.D., 1946, Purdue University.
- Pastore, Peter N., *Professor of Otolaryngology, Rhinology, and Laryngology* A.B. 1930, University of Richmond; M.D. 1934, Medical College of Virginia; M.S. 1939, University of Minnesota.
- Porter, Reno R., *Professor of Medicine Cardiovascular* A.B., 1931, Washington and Lee University; M.D. 1935, Medical College of Virginia.
- Ray, Edward S., *Professor of Medicine* A.B. 1932, Randolph-Macon College; M.D. 1936, University of Virginia.
- Reid, J. Douglas, *Professor of Microbiology* Ph.B., 1928, Brown University; Sc.D., 1931, Johns Hopkins University.
- Schelin, Eric C., *Professor of Obstetrics and Gynecology* A.B., 1931, University of Iowa; M.D., 1935, Marquette University.
- Shamburger, Lacy L., *Assistant Clinical Professor of Obstetrics and Gynecology* M.D., 1932, Medical College of Virginia.
- Shanklin, William M., *Professor of Anatomy* B.S., 1921, Blue Ridge College; Ph.D., 1929, Yale University.
- Shield, James A., *Associate Clinical Professor of Psychiatry* A.B., 1960, Princeton University; M.D., 1964, University of Virginia.
- Simpson, Richard L., *Professor of Crown and Bridge Prosthodontics* D.D.S., 1935, Medical College of Virginia.
- Stone, James B., *Clinical Associate Professor of Pediatrics* M.D., 1919, University of Virginia.
- Thomason, Rudolph C., *Associate Professor of Clinical Ophthalmology* M.D., 1929, Medical College of Virginia.
- Thompson, W. Taliaferro, Jr. *Professor of Medicine* A.B., 1934, Davidson College; M.D., 1938, Medical College of Virginia.

Board, Administration, and Faculty

Tucker, James T., *Clinical Professor of Orthopedic Surgery* M.D., 1926, Medical College of Virginia.

Wallerstein, Emmanuel U., *Clinical Professor of Otolaryngology* M.D., 1919, Johns Hopkins University.

Warthen, Harry J., *Associate Clinical Professor of Surgery* M.D., 1925, University of Virginia.

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PRIVACY RIGHTS OF PARENTS AND STUDENTS

Provisions for the release of information concerning students, including the rights of access by students and others to education records maintained by Virginia Commonwealth University, are as follows:

A. Release of Personally Identifiable Student Information

It is the policy of Virginia Commonwealth University that "personally identifiable information," other than "directory information" from a student's education records, will not be disclosed, without the written consent of the affected student, to any party or organization which does not have a legitimate right of access to the information. The persons or organizations which are deemed to have legitimate rights of access are:

1. Virginia Commonwealth University officials and staff, and university academic excellence and honor societies, fraternities, and sororities which have a designated faculty advisor. Requests from such officials or organizations shall be directed to the appropriate office and proper identification will be required. Access will not be granted unless it is determined that the person or organization is deemed to have a legitimate educational interest, which is defined as having some reasonable relationship to instruction, supervision, administration, or other similar responsibility of this university.
 2. Appropriate persons in connection with a student's application for or receipt of financial aid.
 3. Appropriate federal or state education authorities.
 4. Organizations conducting studies for, or on behalf of, Virginia Commonwealth University, for the purpose of assisting the university in the accomplishment of its stated mission and purpose; provided, however, that such information will be used only by such organizations and will be destroyed when no longer needed for the intended purpose. The university registrar or the assistant university registrar must approve requests of this nature.
 5. Accrediting organizations.
 6. Parents of a dependent student, as defined in Section 152 of the Internal Revenue Code. (Note: Husbands and wives are not entitled to obtain records of their spouses without the consent of the spouse, regardless of dependency.)
 7. In compliance with judicial order or subpoena, after the university has made a reasonable effort to notify the student.
 8. Appropriate persons in connection with an emergency if such knowledge is necessary to protect the health or safety of a student or other persons.
- NOTE: Custodians of student records will maintain a record of all individuals and agencies which have requested or obtained access to a student's record (except those listed in A (1) and (6) above). This record will specifically indicate

the legitimate interest that the person or agency had in obtaining the information, and the information made available will be limited to that necessary to satisfy such demonstrated needs. In addition, custodians will, prior to the release of "personally identifiable information" from a student's record, obtain assurances that the information will be used only for the purpose for which the original disclosure is made and that there will be no further disclosure without the student's consent.

B. Definitions:

1. *Education Records.* "Education records" are defined as those records, files, documents, and other materials which (1) contain information directly related to a student; and (2) are maintained by Virginia Commonwealth University or by a person acting for the university. They do not include: (1) personal notes and other such information which is in the sole possession of the maker and which is not accessible or revealed to any other individual; (2) records available only to law enforcement personnel; (3) employment records; (4) medical, psychological, and psychiatric records which are disclosed only to individuals providing treatment and which can be made accessible to the student's personal physician or other appropriate person of the student's choice; or (5) information collected on a person who is no longer a student at Virginia Commonwealth University and which pertains to activities or accomplishments that occurred after the person ceased to be a student at VCU (e.g., records of the accomplishments of alumni). A list of education records maintained by the university and the location thereof is available in the Office of the University Registrar.
2. *Student.* A "student" is any person who is or has been enrolled at Virginia Commonwealth University, and with respect to whom education records are maintained by the university, and includes a parent of a "dependent student," as defined in Section 152 of the Internal Revenue Code.
3. *Directory Information.* "Directory information" includes the following: a student's name, mailing address and telephone number, semesters of attendance, load status (full- or part-time), date of admission, date of graduation, school, major and minor fields of study, whether or not currently enrolled, classification (freshman, sophomore, etc.), type of degree being pursued, honors, awards, degrees received, weight and height of members of athletic teams, and whether the student has participated in officially recognized activities and sports sponsored by the university. At the time of registration, and not later than 14 days after the beginning of a term, the student may submit to the Academic Records Office a written request that directory information pertaining to that student not be released. This request is effective only for the one semester and must be renewed at the beginning of each academic term.

4. *Access.* Access to an education record signifies the right to inspect one's records and includes the right to obtain copies of that record.

C. *Procedure for Gaining Access to Education Records*

To obtain access to one's records, a student must advise the custodian of the records of his or her desire to examine such records. If desired, the student may also request an explanation and/or copies of such records. A reasonable fee will be charged for copies provided. Examination will be permitted under conditions which will prevent alteration or mutilation of the record. A student must present proper identification upon the request of the custodian of the records.

If the student believes the record content to be inaccurate, he or she may submit a request to amend the record. Normally, such matters will be satisfactorily resolved in the course of informal discussions with the student. When agreement cannot be reached, a written challenge as to the accuracy of the record may be presented to the record custodian, who will provide a response to the student within a period of 45 days. If the student's request is not granted, the student will also be advised of his or her right to a hearing. The student may then submit a written request for a hearing to the dean of student life, who will refer the matter to the University Hearing Board. The normal procedures established for the Hearing Board will govern such appeals. If the appeal is denied, the student may submit to the University Hearing Board a written explanation to be inserted into the record.

NOTE: This procedure does not provide for a hearing to contest an academic grade.

D. *Limitations on Rights of Access*

A student is not entitled to access to:

1. Financial records of parents or any information therein.
2. Confidential letters and statements of recommendation which were placed in the education records prior to January 1, 1975, as well as those received subsequent to that date when the student has specifically waived, in writing, his or her right to examine or review said letter(s) or statement(s).
3. Medical and/or psychiatric records, when the attending physician has made a part of the record a written statement that in his or her opinion, the review of the records by the person who is the subject of the record would not be in the best interests of said person.

- E. The university retains all rights to the student's academic record and may withhold transcripts of the record because of unfulfilled obligations to the university.

- F. These guidelines are promulgated pursuant to Section 438, Pub. L. 90-247, Title IV, as amended, 88 stat. 571-574 (20 U.S.C. §1232g); and the regulations promulgated by the Secretary of Health, Education, and Welfare as published in the *Federal Register* on Thursday, June 17, 1976. A student who feels that the university has failed to comply with applicable regulations is entitled to file a complaint with the Secretary of Health, Education, and Welfare.



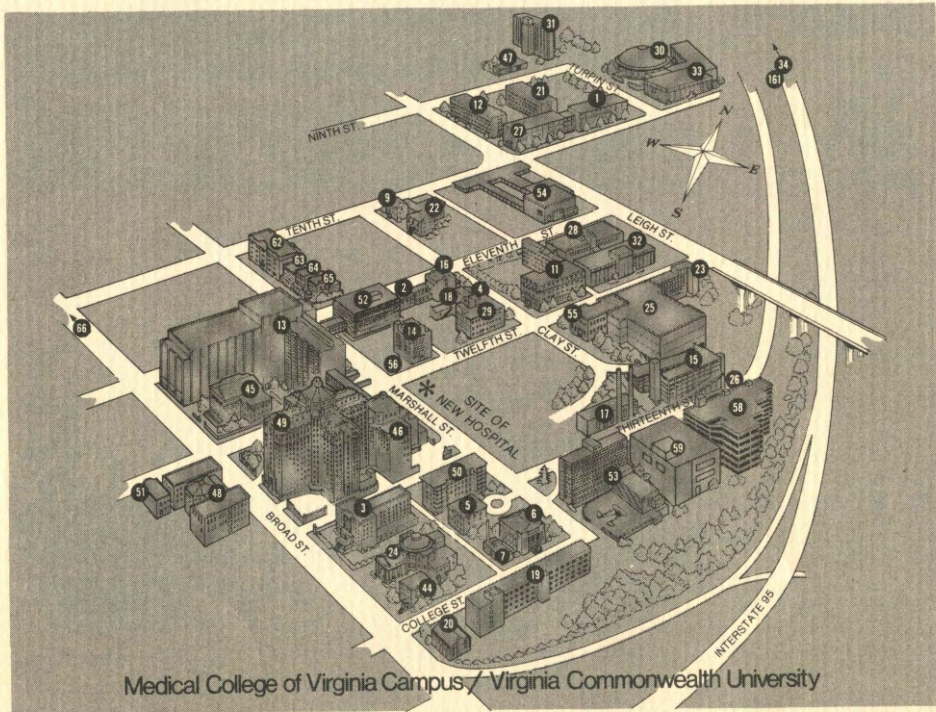
INDEX Medical College of Virginia Campus

- 1 Bear Hall, 10th and Leigh Streets
- 2 Bowe House, 411 North 11th Street
- 3 Nursing Education Building, 1220 East Broad Street
- 4 Pediatric Neurology, 1107 East Clay Street

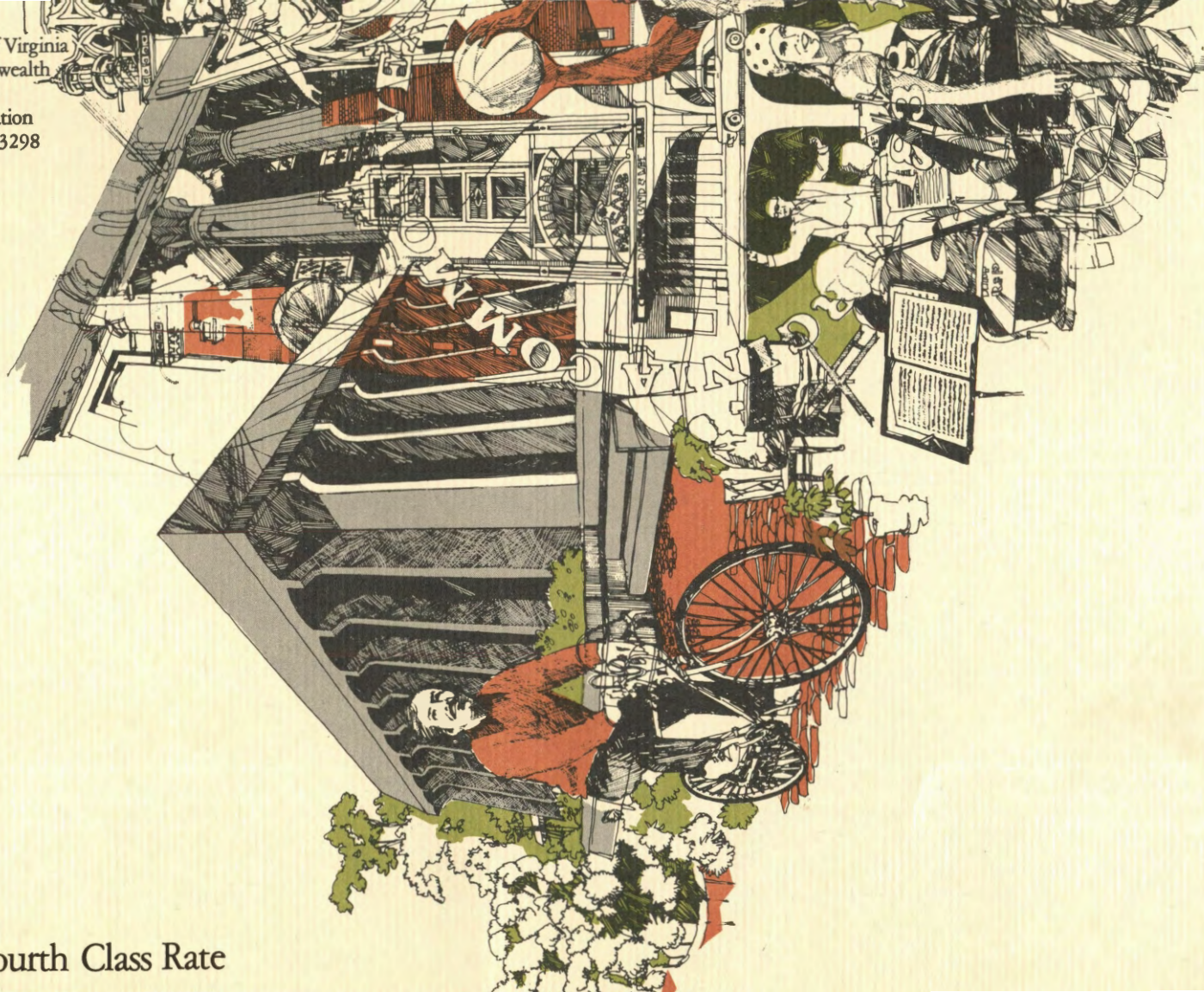
- 5 Dooley Building, 1225 East Marshall Street
- 6 Egyptian Building, 1223 East Marshall Street
- 7 Pathological Incinerator, 316 College Street
- 9 Physical Plant, Leigh House, 1000 East Clay Street
- 11 McGuire Hall, 1112 East Clay Street
- 12 McRae Hall, 10th and Leigh Streets
- 13 Sanger Hall, 1101 East Marshall Street
- 14 Richmond Eye Hospital, 408 North 12th Street

- 15 Visitor Parking Deck, 1220 East Clay Street
- 16 Personnel Employment Office, 1101 East Clay Street
- 17 Central Heating and Power Plant, 400 North 13th Street
- 18 MCV Alumni Building, 1105 East Clay Street
- 19 Randolph-Minor Hall, 307-315 College Street
- 20 Randolph-Minor Annex, 301 College Street
- 21 Rudd Hall, 10th and Leigh Streets
- 22 Sheltering Arms Building, 1008 East Clay Street
- 23 Strauss Research Laboratory, 527 North 12th Street
- 24 Monumental Church, 1226 East Broad Street
- 25 Library, Tompkins-McCaw, 509 North 12th Street
- 26 Toxicology Laboratory and Rodent House, 9 North 13th Street
- 27 Warner Hall, 10th and Leigh Streets
- 28 Wood Memorial Building, 521 North 11th Street
- 29 Hearing/Eye Center, 1109 East Clay Street
- 29 Medical Records, 12th and Clay Streets
- 30 Larick Center, J. L., 641 North 8th Street
- 31 Cabaniss Hall, 600 North 8th Street
- 32 Lyons Dental Building, 520 North 12th Street
- 33 Gymnasium, 9th and Leigh Streets
- 34 Animal Research Facility, Hanover County
- 44 Newton House, College and Broad Streets
- 62 Post Office, 10th and Marshall Streets
- 45 Restaurant, 12th and Broad Streets
- 46 A. D. Williams Memorial Clinic, 1201 East Marshall Street
- 47 VCU Day Nursery, 610 North 9th Street
- 48 South Hospital, 1201 East Broad Street
- 49 West Hospital, 1200 East Broad Street
- 50 East Hospital, 1215 East Marshall Street
- 51 Nursing Staff Development Offices, 223 Governor Street
- 52 Nelson Clinic, 401-409 North 11th Street
- 53 North Hospital, 1300 East Marshall Street
- 54 Virginia Treatment Center, 515 North 10th Street
- 55 Richmond Academy of Medicine, 1200 East Clay Street
- 56 Skull and Bones Restaurant, 12th and Marshall Streets
- 58 Faculty-Staff Parking Deck, 515 North 13th Street
- 59 Supply Center, 401 North 13th Street
- 59 Linen Supply Center, 401 North 13th Street
- 66 Continuing Education, 301 West Franklin Street
- 66 Research and Graduate Affairs, 301 West Franklin Street
- 161 Purchasing, 1207 North Boulevard
- 161 Accounting (General), 327 West Main Street

*Site of new hospital, 12th and Marshall Streets



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